AEROSOL AGE

THE MAGAZINE OF PRESSURE PACKAGING

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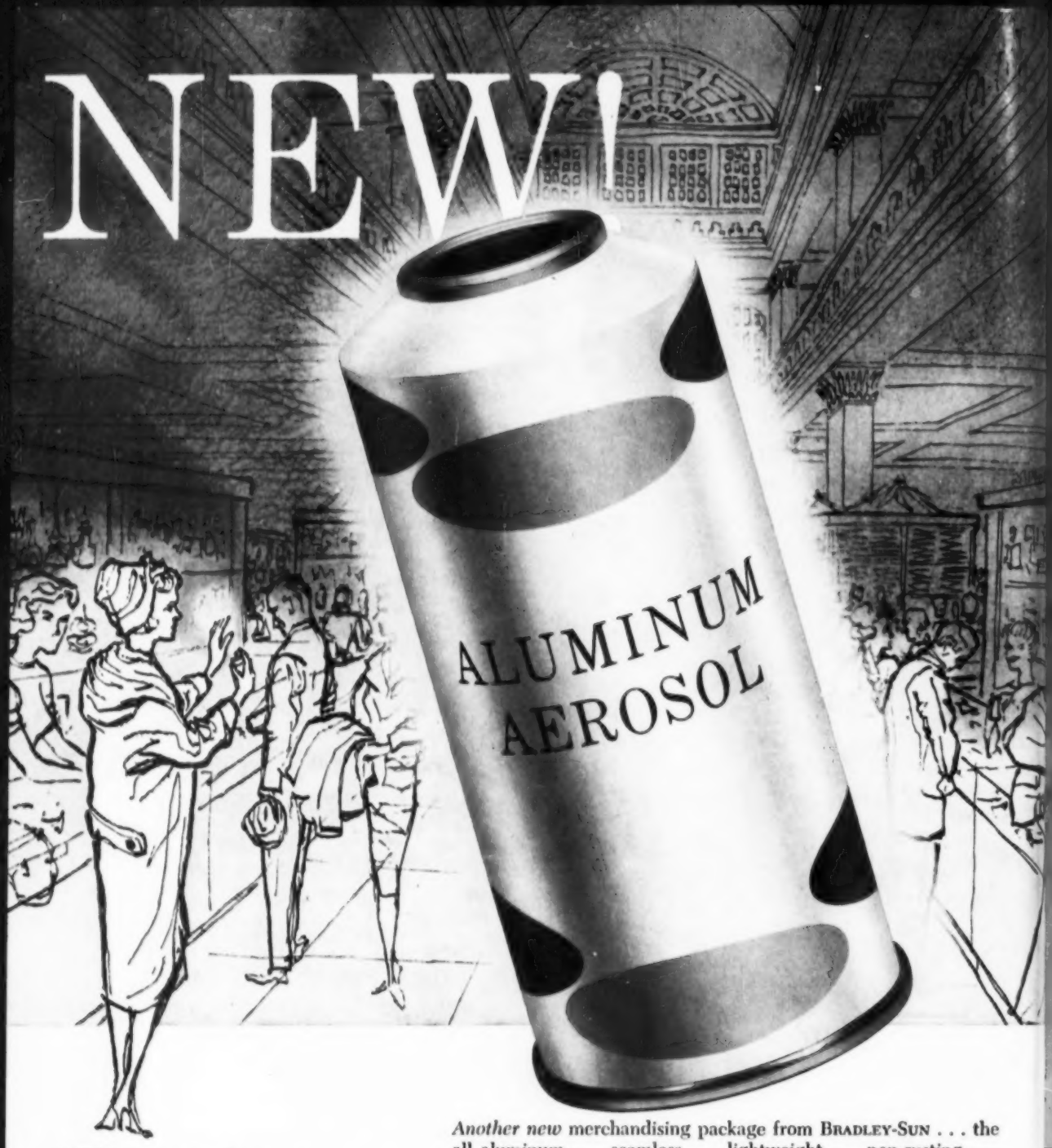
- CSMA Meeting Reports
  - Nielsen Survey on Aerosols
  - Aerosols and Grocery Chains
  - The Aerosol Market Potential
  - Solubility Symposium
- Importance of Foreign Patents
- Device for Scenting Movies
- TGA, SCC Meeting Reports
- New Pyrethrum Plant

JANUARY, 1960

NEW!

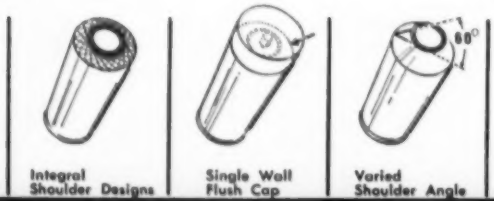


"The package *is your product* . . . at the point-of-sale!"

Another new merchandising package from BRADLEY-SUN . . . the all aluminum . . . seamless . . . lightweight . . . non-rusting . . . highly decorative aerosol can. Modern shoulder design, with exclusive embossing patterns . . . brilliant direct four color printing.

This new container is backed by extensive aerosol technology including a variety of perfected internal coatings and advanced bottom seaming which makes it suitable for all commercial propellants. Volume production is soon to be ready at the world's largest and most modern impact extrusion plant devoted to fabrication of aluminum containers.

Call or write Bradley-Sun for all details on this new seamless aluminum aerosol can.



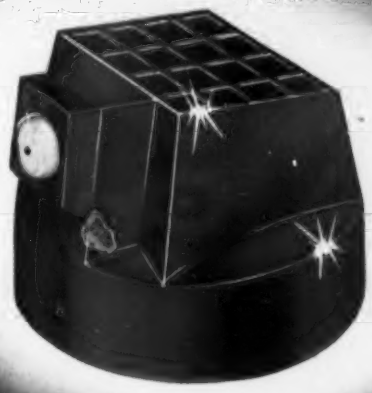
BRADLEY *Sun*

Division of American Can Company, Hillside, New Jersey
Sun Tube of Canada, Ltd., Ottawa, Ontario

At last! An elegant new design that gives positive directional control!

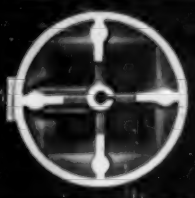
the new JET HEAD

by Aerosol Research



. . . for paint and related products!

new consumer appeal! new convenience! new savings!

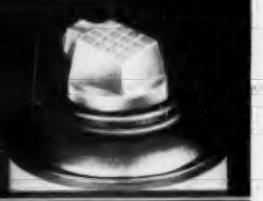


PERFECT ALIGNMENT EVERY TIME!
New self centering design guarantees it. Speeds assembly, saves time and that means money.

DESIGNED FOR AR-74 VALVE!
The metering is built right into the spray head cleans easy for trouble free service.

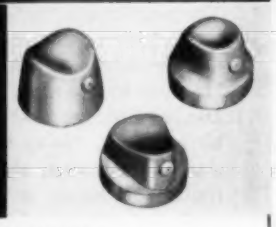
ELIMINATES FINGER FATIGUE!
Jet Head is designed for the prolonged use of spray paints and related items!

POSITIVE DIRECTIONAL SPRAY!
You just can't miss with Jet Heads built-in accuracy it's designed for everyones convenience.



FUNCTIONAL DESIGN!
Jet Head hides the unsightly well of the mounting cup . . . makes a neater package. Really makes color and style of head an important design feature . . . Jet Head colors really stand out.

CUSTOM DESIGN SERVICE!
Aerosol Research can custom design to meet large volume buyers special style requirements.



WRITE NOW FOR THE ALL NEW JET HEAD CONCEPT.
IT'S FREE . . . and there's no obligation, of course.

743 South Circle / Forest Park, Illinois

AEROSOL RESEARCH COMPANY

CABLE ADDRESS: AERESCO

Licensees in: England, France, Germany, Spain

AEROSOL RESEARCH COMPANY
743 South Circle / Forest Park, Illinois

Gentlemen: Please send me:

- ☐ Complete data on Jet Head.
- ☐ Have a representative bring samples at no obligation to me.
- ☐ Details on ARC's custom design service!

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

The contract packager had the answer... *another success story from the ISOTRON® file.*

J. Myron Kimmel (left), president of Aeropak, discusses formula changes required for aerosol packaging with the marketer.

He packed PLUS PROFITS in a Push-Button Can

The paint marketer*—like many manufacturers—wanted to exploit the vast do-it-yourself market for aerosol-packaged products, but needed help. He went to a leading contract packager, Aeropak, Inc., of Chicago, and quickly got the technical aid he required. Now, thanks to Aeropak and the push-button can, the marketer has a new and highly profitable product . . . and milady paints with the skill of a "pro". To extend such services to marketers throughout the country, Aeropak recently acquired a new plant in Kearny, N. J.

If you have a candidate for the rich aerosol market, it will pay you to take advantage of the many services offered by the contract packager. He's a specialist in solving difficult problems; can help reformulate your product for aerosol use, recommend the best can, valve and propellent. An increasing number of packagers rely on Pennsalt ISOTRON® propellents to help turn "also ran" products into best sellers on the aerosol market.

**name on request*

ISOTRON—*The Key To Modern Living*

Pennsalt Chemicals
ESTABLISHED 1850

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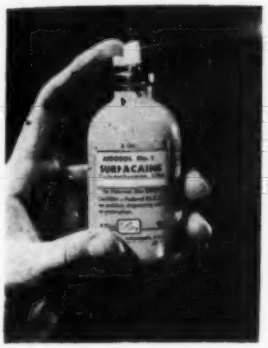
PENNSALT CHEMICALS CORPORATION
Three Penn Center
Philadelphia 2, Pa.



THIS MONTH'S COVER

First entry of Eli Lilly & Co. (Indianapolis) in the aerosol field is "Aerosol Surfacaine," a new "faster acting" topical anesthetic. Available by prescription only, it is intended for skin abrasions, thermal and chemical burns, paint and itch of the vulvar and anal areas, postsurgical wounds, insect bites, and contact dermatitis. It contains cyclomethycaine hydrochloride, nonaqueous solvent, alcohol and propellant. 2-ounce coated bottle is by Wheaton Plastics, glass bottle valve by Risdon Mfg. Co., and custom filling by G. Barr & Co., Chicago.

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AEROSOL AGE

The magazine of pressure packaging

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THE BEST REASON TO TRUST PRECISION WITH YOUR PRODUCT

*100 BILLION SUCCESSES WITH THIS VALVE

PERFORMANCE-PROVEN ON EVERY TYPE OF PRESSURIZED PRODUCT

On October 18, 1959 at 10:25 in the morning, Precision Valve Corporation produced its one billionth aerosol valve. Ten years of research, study and experience went into its creation and in those same ten years, the aerosol package came of age.

Today, almost any product that can be poured or powdered can be dispensed in an aerosol . . . always dispensed with greater ease and more convenience, usually at less cost.

Precision Valve Corporation's Research Department will be happy to help you build a better package for your product with the valve of proven quality.

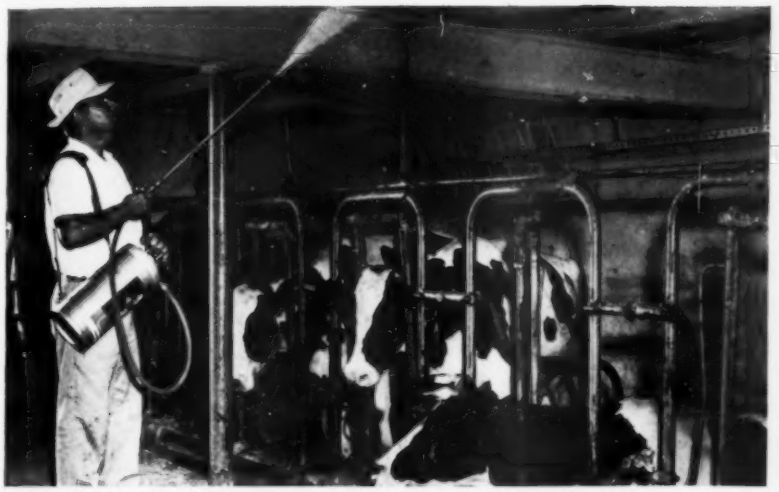
PRECISION VALVE CORPORATION
700 NEPPERHAN AVE., YONKERS, N. Y. • ZURICH

** Calculated on the basis of about 100 actuations per aerosol . . . from the 56 uses of an air sanitizer through the 198 times actuated tooth paste container, not including foreign production.*

Fairfield Facts

DAIRY EDITION ★ ★ ★

FLY CONTROL MEANS BETTER MILK



ARE THESE COWS PROTECTED? Increased insect resistance in 1960 will make many once-successful insecticide formulations obsolete, emphasize researchers at Fairfield Chemicals, Food Machinery and Chemical Corp. Use of maximum-effectiveness insecticides containing Pyrenone assure animals of complete protection and prevent loss of farm income due to drop in milk quality.

Flies Find Dining Is Dangerous When Pyrenone Is On The Menu

Flies are finding it more dangerous lately to attack grazing animals. Not only is it proving uncomfortable for the flies, but it's becoming downright fatal.

Farm use of insecticide and repellent combinations like Pyrenone* and Crag Fly Repellent† afford additional, dual protection to grazing animals... protection that kills flies on contact and repels future attacks for several days.

Field tests show that sprays only utilizing repellents have limited value. Flies, gnats and mosquitoes stay in the area, bothering animals and attacking non-treated stock. When grazing cattle are annoyed by insects, quantity and quality of milk yields suffer.

Versatile Pyrenone and Crag Fly Repellent combinations are available as oil sprays and emulsions. Highly effective, they are accepted under the Miller Bill on a "non-residue" basis. No trace of approved formulations appears in milk or meat of treated animals. Send for free technical bulletin No. F-1.

*U.S. Pat. Off. FMC †U.S. Pat. Off. U.C.C.

Copies of the following booklets may be obtained from local Fairfield representatives or by writing to Fairfield Chemicals, Food Machinery and Chemical Corporation, 441 Lexington Avenue, New York 17, New York.

☐ DAIRY, LIVESTOCK AND CATTLE SPRAYS AND DUSTS — Free booklet describing Pyrenone formulations for sprays, emulsifiable concentrates, wettable powders, fogging sprays, Pyrenone and repellents, Pyrenone aerosols, cow bombs.

☐ TECHNICAL BULLETIN No. F-1 — Free bulletin describing Pyrenone and Crag Fly Repellent formulations.

☐ FAIRFIELD FACTS FINDER—a new, 20-page comprehensive guide and unique, revolving calculator covering Pyrenone base formulations for dairy, garden, home and industrial sprays, aerosols and powders as well as an index of insects and pests. Price—$1.00.

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441 LEXINGTON AVENUE, NEW YORK 17, N. Y.

Branches in principal cities. In Canada: Natural Products Corporation, Montreal and Toronto.

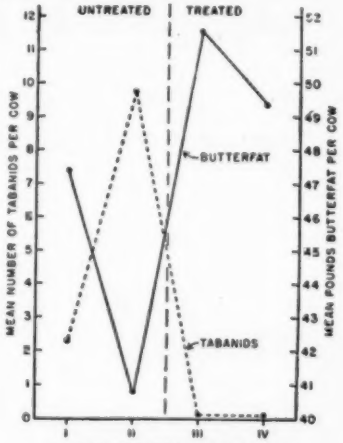
Pyrenone Formulations Keep Cows Contented As Flies Get Tougher

Formulators whose insecticides offer Pyrenone's maximum protection will get a greater share of farm business during 1960. Field tests prove that maximum control of biting flies means better milk—hence, more money for the farmer.

With flies becoming harder to kill every year, dairymen can't risk insecticides that lose their "punch." Entomologists reveal that in some areas last year, they changed formulations two and three times to maintain fly control. Non-toxic Pyrenone appeared in virtually every final successful insecticide.

Milk quality suffers when biting fly control is below maximum. In Illinois, during a May-June span, twelve herds not protected by an effective insecticide lost 13 to 14.8 percent in butterfat. A 1-percent piperonyl butoxide and 0.1 percent pyrethrins Pyrenone emulsion used twice a week in amounts of 10 to 15 ounces per cow brought butterfat back to normal in a month.

Effective Pyrenone formulations for sprays, emulsions, powders, etc., are included in a free booklet, "Dairy, Livestock and Cattle Sprays, and Dusts," available upon request.



Mean number of tabanids and mean pounds butterfat produced per animal during four successive 30-day periods for seven animals in similar stages of lactation. Treatments started the last day of the second 30-day period.

The RIGHT FRAGRANCE will help your product make the right impression . . . and that means sales acceptance. A quality fragrance developed through the modern research, technical and creative abilities of van Ameringen-Haebler will suit your product perfectly, will impress your customers and will cultivate brand loyalty.

Send us a sample of your product and let us suggest a fragrance that will make the right impression.

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Advancing the aerosol idea thru clinics and seminars

Guiding prospects to profits thru market surveys

Probing client problems thru Du Pont facilities

Supplying on-the-spot aid thru technical service

Du Pont serves you best!

Round the clock . . . coast to coast . . . able hands, expert minds and modern equipment assist FREON® users in developing, producing and marketing aerosols.

You get more than a premium-quality propellent when you buy Freon*. . . *far* more. For Du Pont provides the most comprehensive customer services in the industry.

DEVELOPMENT—Du Pont has skilled scientists to help directly with your product-improvement projects. The facilities of the "Freon" Sales Service Laboratory are available to assist with your problems. The laboratory team also develops improved formulations and techniques and donates the results to the aerosol industry.

PRODUCTION—Du Pont know-how and experience come to you wherever you are, whenever you need help on production techniques or problems . . . through a large team of technical representatives. Your Du Pont service engineer is trained to help you cut costs, too. Call him any time.

MARKETING—Du Pont regularly conducts surveys, clinics, and seminars to bring you up-to-date market information on aerosols. And Du Pont national advertising promoting the aerosol packaging idea helps assure you a steady flow of new customers.

To take advantage of any of these valuable sales-building services, just call or write the Du Pont office nearest you. Be sure to buy "Freon"—recognized throughout industry for quality, performance and superior properties—for *all* your propellent needs. You'll get virtually local delivery from three plants and a country-wide network of warehouses.

E. I. du Pont de Nemours & Co. (Inc.)
"Freon" Products Division 321, Wilmington 98, Delaware

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INDUSTRY MEETING CALENDAR

Essential Oil Association, annual meeting. Savoy-Hilton Hotel, New York. January 8.

Compressed Gas Association, 47th annual meeting. Waldorf-Astoria Hotel, New York .....Jan. 18-20

Society of Cosmetic Chemists, New York Chapter, Hotel New Yorker, New York .....Feb. 3

Chemical Specialties Manufacturers Assn., Meeting of Board of Governors, Executive Boards, and Committees, Belleview-Biltmore Hotel, Belleair, Fla. .....March 21-23

National Packaging Exhibition, Convention Hall, Atlantic City, N. J., ...April 4-8

Society of Cosmetic Chemists, New York Chapter, Hotel New Yorker, New York .....April 20

Production Exhibition, Oylmpia, London, England .....April 25-30

Toilet Goods Association, scientific section, spring meeting, Waldorf-Astoria Hotel, New York, May 11.

Chemical Specialties Manufacturers Assn., 46th mid-year meeting, The Drake Hotel, Chicago Ill..... .....May 15-17

Society of Cosmetic Chemists, annual seminar, The Drake Hotel, Chicago. .....Sept. 15-16

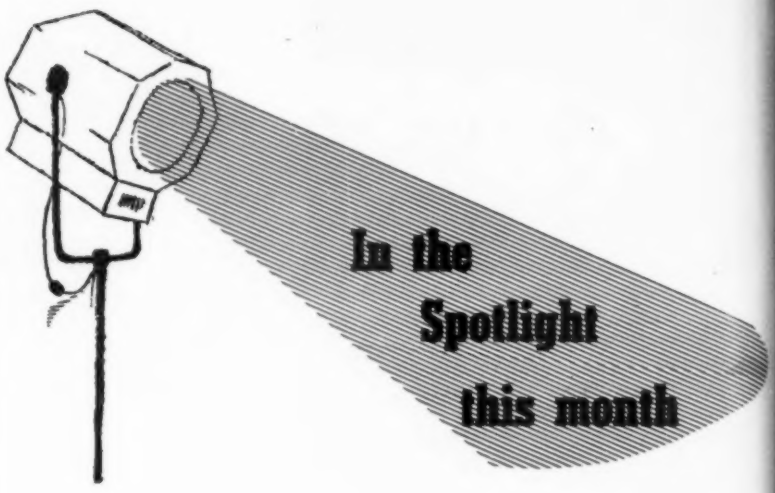
Chemical Specialties Manufacturers Assn. 47th annual meeting, Hollywood Beach Hotel, Hollywood, Fla. .....Dec. 3-9

•

Shulton Names Ad Agencies

Shulton, Inc., New York, major aerosol product marketer, has named three advertising agencies to spend some $1,750,000 this year on advertising its products. Major portion of the Shulton account, including the "Old Spice" line, will remain with Wesley Associates, Inc.

The "3 Way Curl Spray", a new hair product, will be handled by Doherty, Clifford, Steers & Shenfield, Inc., while Benton & Bowles, Inc., will supervise the "Desert Dri" deodorant and a new product to be introduced later. "Technique" hair color, a new line acquired by Shulton four months ago, will be managed by Campbell-Mithun agency in Minneapolis.



• **Foreign Patents** . . . The startling fact that U. S. aerosol component manufacturers and perhaps even marketers may be yielding valuable patent rights through sheer neglect is discussed (on page 30) by a man whose company had had long experience in foreign affairs of U. S. companies.

• **CSMA Meeting Reports** . . . Comprehensive reports on all the aerosol papers delivered at the Washington meeting of the CSMA highlight this issue on pages 23 through 29. Included is significant coverage of talks by executives of consumer survey firms, marketers, and food chains, as well as extended space devoted to the Aerosol Division's "Solubility Symposium".

• **Perfumery Problems with New Aerosols** . . . Victor DiGiacomo, whose work in this field is known throughout the world, reports on many of the fundamental and detailed considerations necessary in this vital operation in the success of any given product. His complete paper begins on page 20.

• **Prentiss Unveils New Pyrethrum Plant** . . . A new manufacturing source for this all-important aerosol insecticide component is revealed in this AEROSOL AGE article on page 34.

• **Consumer Survey Reveals Surprising Knowledge of Aerosols** . . . The average consumer may know more about the aerosol than the industry thinks! A detailed shopper survey, conducted by the CSMA's Aerosol Division, is reported on in detail on page 40.

You get better makin's in a Newman-Green

Newman-Green embodies the finest possible parts into an aerosol valve that pressure fills faster, more uniformly. Typical of the many exclusive design features are • No small orifices in metal parts • Delivery tubes swedged on, not slipped over valve body • Spray patterns can be completely varied in seconds by simply changing the spray head • All metering orifices and spray heads are easily accessible for cleaning. These better makin's give your aerosol product a competitive edge—mistier sprays, more dependable operation. When you do business with Newman-Green, you can depend upon personal service that goes beyond the sale. Call your Newman-Green representative today.

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DOESN'T IT MAKE YOU HOPPING MAD?...

. . . to have the success of your product jeopardized by a supplier's inability to cater *dependably to your precise needs:* to supply you a fragrance tailor-made to your aerosol's intended use and fully compatible with its various components – a fragrance, completely stable and formulated with skill to withstand all conditions of shelf-life? Aerosol fragrances are usually complex mixtures, and unless their ingredients are carefully selected and tested in combination *before* their adoption, serious defects are likely to appear – fading, valve clogging, discoloration, instability of odor, etc. – each, in itself, a potential deterrent to sales. By taking advantage of our outstanding customer service in the early stages of your planning, you can avoid such defects and the ensuing consequences. We invite you, therefore, to avail yourself – without cost or obligation – of the benefits of our helpful services.

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Straight line or Rotary—any speed
FOR LIQUID AND GASEOUS PROPELLANTS

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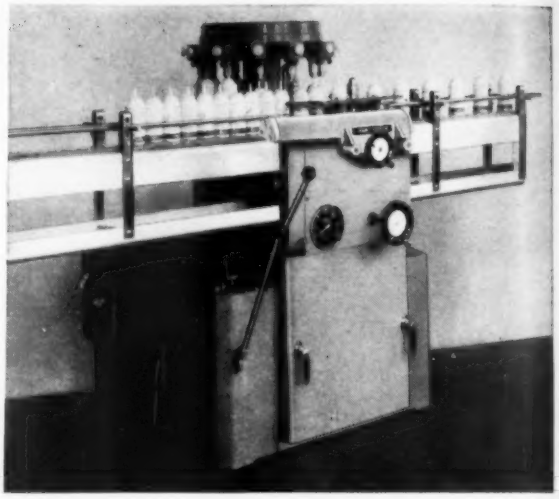

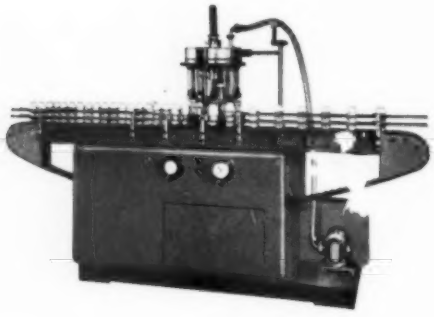

KIEFER PRESSURE-VACUUM FILLER-PIN POINT

has the distinctive and unbelievable feature of filling any container WITHOUT use of a SEAL. An automatic cut-off operates at your selected liquid level, giving you "Pin Point" accuracy. Speed unlimited!

for POLYETHYLENES . . BOTTLES . . JARS . . TINS.
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ON AEROSOL PROCEDURE.

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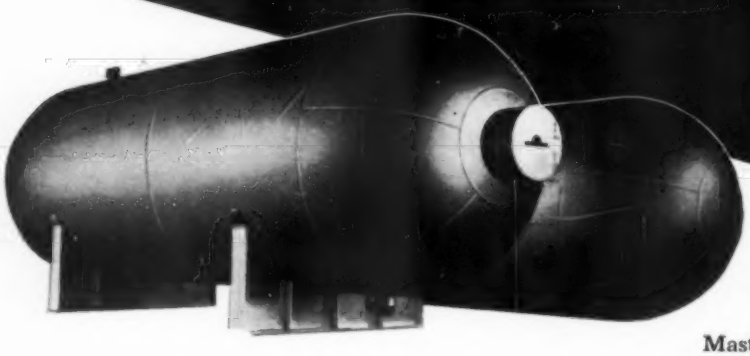

Engineered to fit your requirements

Master Tank & Welding, one of the oldest fabricators of ASME pressure vessels for the petroleum and the butane-propane industries, is now producing propellant pressure vessels for the aerosol industry. Both Master plants at Dallas, Texas, and Quincy, Illinois, are equipped with the most modern steel fabricating equipment to assure you of the utmost in safety and quality. This modern equipment also means competitive prices. Send us your specifications for quotation and delivery. No obligation, of course.

FROM 150 GALLONS TO 70,000 GALLONS

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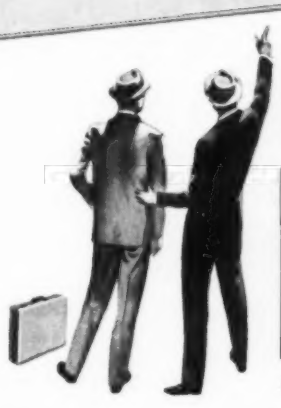
AEROSOL PACKAGING MAKES BEAUTIFUL PROFITS



Ucon brand propellants put action in products

UNION CARBIDE Ucon BRAND

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Division of Union Carbide Corporation
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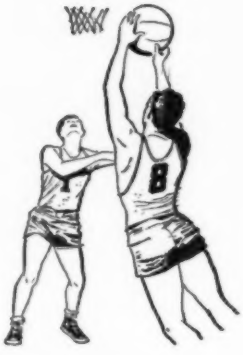

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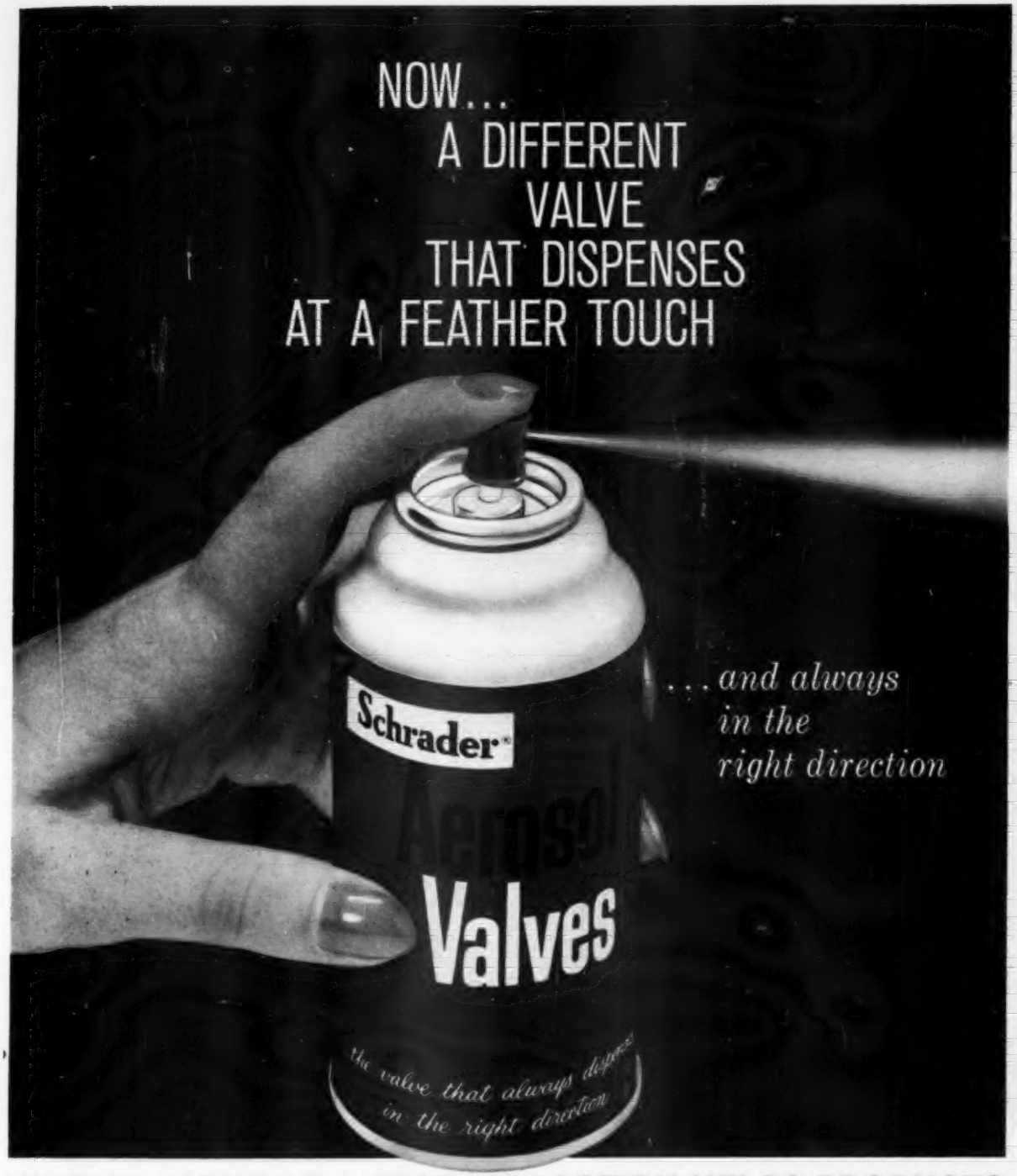

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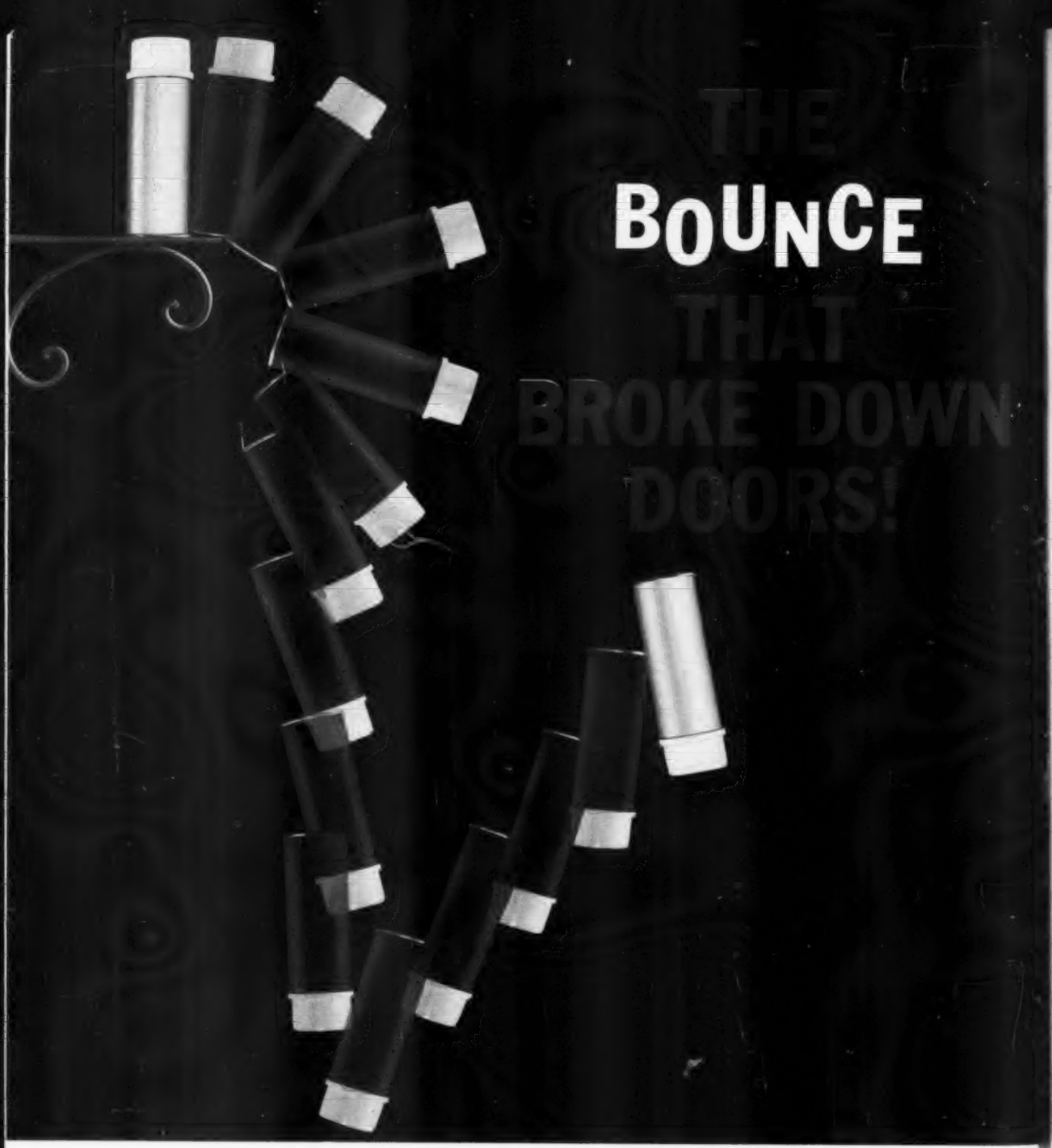

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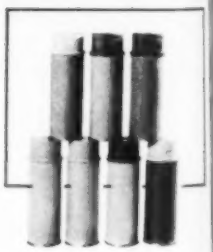

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EDITORIALS

Aerosols and the Food Industry . . .

At the Chemical Specialties Manufacturers Association meeting, and at other meetings where aerosol technical and sales personnel gather, we detect an undercurrent of disappointment that aerosol food products have not yet won as significant a part of the total market as was anticipated 12, 18, or 24 months ago. This feeling is understandable in view of the predictions that 1959 would be *the year* for pressurized food products—the year during which most of the major food marketing companies would develop and market at least one important aerosol product.

True, companies of the caliber of Kraft, Tropicana, Lever Brothers and a few others have introduced aerosol products this year (most in the topping category). But the hoped-for "rush" never materialized, and instead there has been an almost maddeningly long (for some people) delay while the aerosol concept penetrates the echelons of executive personnel who must pass on such an innovation.

But the aerosol industry should not be disheartened by this. The food industry is traditionally cautious; for unlike the chemical specialties manufacturers, it cannot afford to ride through corrosion, valve malfunction, propellant leakage, etc. in a product that will cost millions of dollars to advertise and merchandise. Prestige is an all-important commodity in the food field, one not usually put on the line for the sake of a mere packaging innovation.

A similar situation has slowed down the introduction of pharmaceutical products by leading companies in that field, though at this point the dam seems to have given way and new products are being introduced nearly every month. And if this wasn't the year of the aerosol food product, it *was* the year for aerosol colognes and perfumes—products of another cautious, prestige-conscious industry. So sweet has been the victory of the aerosol that the non-aerosol holdouts are scrambling to jump on the bandwagon.

In the latter field, market competition has been the key factor. Pronounced market successes by "fringe" marketers of perfumes and colognes—plus improvements in container, valve, and propellant systems from within the aerosol industry—have in many cases forced the hand of even the most recalcitrant, over-cautious, tradition-bound perfume firms.

The success of Lever Brothers, Kraft, and similar companies (coupled with the continued prosperity of Reddi-Wip and the other "senior" marketers of whipped toppings) can be expected to entice other major food marketers into the aerosol field—to maintain a competitive position, if for no other reason. Improved knowledge of emulsion systems, advancement in can linings, and further studies in bacteriological breakdown of food materials under pressure, will all help to make the introduction of an aerosol food product less a gamble.

But it would be unrealistic for us not to recognize that up to now an important shortcoming of the pressurized food package has been the propellant. Repeated consumer surveys have indicated that the purchaser is most frequently disenchanted with the toothpaste or food container in which substantial portions of product must be left untouched. If this shortcoming could be overcome (through FDA approval of a liquefied hydrocarbon food propellant or through improvements in existing systems) the aerosol food product will surely achieve its potential. ★

BOUND NOV 1961

PERFUMERY PROBLEMS

with new

(Elizabeth Arden photo)

*By Victor DiGiacomo**
Administrator of Perfume Laboratories
Givaudan-Delawanna, Inc.
New York, N. Y.

THE expansion of an industry from just one area of product application to *many* diversified fields of application is an accomplishment to be proud of. But, when such an expansion is accomplished in less than a decade, it is a rarity indeed. Such has been the case with the aerosol, whose growth in less than ten years resulted from the combined efforts of a diverse group of technological forces, each supplementing and enhancing the work of the others. We were, as were other companies in varied fields of endeavor, closely associated with the growth of the aerosol, and much time and effort has been expanded in solving the many problems involving the perfuming of pressure-packaged products.

Although the early development of the pressure package is well known to many of you, it might be of interest to review briefly the situation as it existed a decade or so ago. When the first aerosol-packaged insecticides and mothicides received their first enthusiastic reception from the consuming public, far-sighted manufacturers foresaw a future for the new packaging medium in many fields. There were, however, many complex problems which the researcher had to solve before the aerosol could be used to package the deodorants, shaving creams, and numerous other materials now being successfully used by the consumer. These problems required more than the knowledge and experience of the chemists and perfumers in the cosmetic and other industries. New knowledge and experience had to be gained to solve such problems peculiar to the aerosol, as corrosion of metal parts, valve clogging, leakage, stability of emulsions within the container, changing of odor character due to incompatibilities, and many others. Furthermore, each of these problems had to be individually solved for each new aerosol formulation under study. And, the most important problem of all was the propelling gas, whose contact with the product formulation created additional matters for study.

IT became apparent very early in our studies that one perfume formulation could not be freely applied to *several* different aerosol products. Each pressurized material created new problems and, therefore, every individual product required accelerated and shelf testing before it could be considered ready for consumer marketing. There was no great difficulty in creating a perfume blend, but it was necessary that we know what effect it would have on the aerosol container, or its components; on the other ingredients in the basic formulation; and on the very small orifice through which it would pass; and, conversely, what effect all these aerosol components would have on the perfume blend.

Another very important consideration, in addition to that of compatibility of the various ingredients, was the pressure at which the container was packaged. It was found that variations in pressure often caused a change in the odor characteristics of the perfume blend. High pressures allowed more complete dissemination of the heavier odor components of the fragrance composition, causing a deleterious effect not only on the top note but on the total odor character of the blend.

During the last decade we have learned many things about perfume and the aerosol. We have determined, through long research and testing pro-

*Presented at the Second Annual Convention of the Canadian Mfrs. of Chemical Specialties Ass'n. in Toronto, Nov. 2-4, 1959.

Aerosol Products

cedures, how individual chemicals and perfume blends will react in contact with the various aerosol components and base ingredients. We have also learned to adapt our formulations to meet the differing needs of the various types of metallic and non-metallic containers and the propellants and propellant mixtures being used.

The development and application of epoxy and other resinous coatings for use in aerosol cans did much to aid in the diversification of the aerosol package. With these new coating materials, it became possible to package products which previously reacted with the container wall if contact was made with the metal. It made possible the packaging in aerosols of certain detergent materials and opened the door to adaptation of the aerosol to the food industry where wide use of this packaging medium is possible and expected. These newer coating materials made possible the realization of the wide potential for the aerosol in the pharmaceutical industry, where the application of the pressure package is now developing rather rapidly. The aerosol offers several advantages in this use, including longer and more sterile shelf life, less contamination, and easier application.

Research into newer propellants brought about the use of nitrous oxide, carbon dioxide, nitrogen and other such gases. Although some of these newer gases were inert, others were reactive and their use with certain types of products proved to be detrimental. The fact that these newer propellants were less expensive than those that were first used led to research programs which made their application to aerosol packaging a reality.

The valve mechanism, an important part of the aerosol container, also went through several stages of development. From the first valve used we have reached a point where there are different valves for the varied products. The metered valve has made aerosol use by the consumer easier and much more convenient. These new metered valves have also made possible a more economical package in view of the fact that most consumers show a tendency to use more of a given pressurized product than is actually necessary.

One may well wonder how the facts we already have mentioned are connected to our main subject. They are, since it might be said that some of the developments aided the perfumer by giving him greater flexibility in the perfume materials that could be utilized in aerosol fragrances. In addition, the newer valves and glass containers, particularly of the purse flacon size, have led to the adoption of the aerosol by the classical perfume organizations.

We have long advocated careful selection of the perfume materials to be used in aerosols due to the problems of hydrolysis, insolubility, coloration, discoloration, and metallic contamination. As a result of the newer processing techniques, we are now in a position to make use of aromatic materials which heretofore were banned for one reason or another. Up to very recently, it was impossible to use in aerosols certain fragrance products containing resinous and herbaceous ingredients which were insoluble. Today, research has made available molecularly distilled products which may be incorporated into aerosol formulations without fear of experiencing solubility difficulties.

In working with the more recently developed aerosol containers, it has been found that certain metals react unfavorably with the ingredients of a perfume blend. In most of these cases, our research has indicated that one of the several internal coatings now available will prevent such a condition. We have experienced results with stainless steel containers for perfume application, but based on our experiences, would recommend that aluminum containers be carefully coated to prevent perfume deterioration.

The most recent developments in aerosol packaging have been the use of synthetic resin containers made of such materials as nylon, delrin, zytel and others. In actual applications, we have found that nylon is *not* an ideal medium for the dispensing of fragrance products. It is, however, suitable for various cosmetic preparations.

Product Formulation

There are many misconceptions about the preparation of aerosol products. In our opinion, many aerosol formulators do not realize that the procedure for preparing aerosol perfumes and colognes is basically the same as that used for the conventionally packaged products. Alcoholic perfume and cologne solutions are always allowed to stand for a specific period of time prior to chilling, filtering, and packaging in non-aerosol containers to permit the precipitation or settling of any resins, waxes and other insoluble materials, which may be part of the natural ingredients used.

This procedure assures that the solution will remain clear, with no evidence of insolubilities, throughout its entire period of shelf-life and use.

In the case of aerosol cans or coated bottles, where the contents are not visible to the packager or user, we have found that this procedure has not always been followed. It must be remembered that when aerosols are in-

volved there is a much more critical solubility problem due to the fact that the carrier in which the perfume oil is dissolved consists of alcohol and propellants having a lower solubility factor than the straight alcoholic solution used in conventional glass-packaged products. This may accelerate the rate of precipitation of the basic components and could create a situation whereby the valve mechanism may be effected causing an inoperative container.

We feel that the proper chilling and filtering of alcoholic solutions for aerosols is, therefore, far more important than when conventional packaging is involved, and recommend the following procedure when preparing a perfume or cologne solution for aerosol application.

PHASE ONE—Preparation of an alcoholic cologne solution

A. Incorporate desired ratio of oil in alcohol
(95% SDA recommended for all propellants except those subject to hydrolization such as #11 — Trichloromonofluoromethane)

B. Allow alcoholic solution to age at least 48 hours.

C. Chill solution for at least five hours at minus 5°C. — minus 10°C.

D. While at these low temperatures, filter several times through Magnesium Carbonate or other suitable filtering medium.

PHASE TWO — Preparation of finished product

The recommended formula for aerosol cologne mist (for use in coated glass containers) is as follows:

4.0	Perfume Oil
46.0	SDA 40
50.0	Propellants (114-85%)
100.0	(12-15%)

In order to prepare the above solution, it is recommended that an 8% concentration of perfume oil be prepared in the alcohol solution and treated as recommended above. To prepare the finished aerosol cologne mist, 50% of the 8% alcoholic solution and 50% of the propellant mixture would be used.

—Metered Perfume Spray (for use in metal containers)

60.0	Perfume solution, 20% perfume in SDA alcohol
40.0	Propellants (114-60%)
100.0	(12-40%)

The alcoholic solution contained in the above formula should be treated as recommended above and charged into a metered aerosol container. Since this product contains a high concentration of perfume oil, the use of metered valves is recommended, in view of the untoward effect which may be experienced due to the particle size of the spray. It is necessary to use a higher pressure in this system to get proper spray characteristics. We should also mention that in view of the vast difference in the specific gravities of the alcohol and the propellants used, all the concentrations in these formulations should be based on weight.

Thus far it has been pointed out how necessary it is to prepare solutions carefully for aerosol application to insure the proper functioning of the pressure container, and it should be emphasized that the same consideration be given to the scenting of other aerosol products. They must be carefully studied to determine the best method for incorporating the perfume oil, and the oil itself must be selected or custom-made especially for the product in which it is to be used. We all know that basic formulations of finished products are modified somewhat when aerosols are involved and, while we can almost always incorporate a perfume oil into a base to be conventionally packaged, it is sometimes necessary to suspend an oil in an aerosol product to prevent separation of the perfume compound. For aerosol insecticides and similar products, it may be necessary to use a high concentration of a co-solvent with the perfume oil in order to solubilize it in the hydrocarbon base of the principle. Therefore, we repeat that it is essential that the individual product be evaluated to determine how the perfume oil is to be formulated and incorporated to achieve the best results.

Aerosol Testing

It has been our experience that in order to achieve a high degree of success when recommending fragrances and product formulations for aerosol applications, it is necessary to maintain a testing program to insure not only the *initial performance* of the perfume product but its *continued performance* over a long period of shelf life. Whether the ingredients chosen for an aerosol product are essential oils, aromatic chemicals, isolates, etc. or cosmetic components such as waxes, lanolin and its derivatives (or other raw materials), their suitability for this application must be determined prior to their selection for a specific formulation. Even after a case history has been developed on each of these materials by both accelerated and long shelf testing procedures they must be formulated into their respective cosmetic bases or perfume compounds and then tested again as a complete aerosol formulation using the same test methods. We have learned that many of the materials which have been proven to be suitable for aerosol use individually react quite differently when incorporated into a blend or formulated into a cosmetic base. One thing must be emphasized, and that is uniformity of test methods. The methodology must be determined prior to the beginning of the tests and the procedure must be maintained throughout the test evaluation period.

Our own aerosol testing procedure is a continuous one and includes both accelerated and long shelf tests. Various types of aerosol formulations are prepared and packaged in the same type of container used for commercial application. The product is shelf tested for a period of one year and undergoes accelerated testing at the initial stages of evaluation. Each month during the test period, and during and after the accelerated procedure, the products under test are evaluated for odor quality, stability, corrosion, perfume performance and other qualities. Comparisons are made with control samples throughout the test periods. In this way, old and new materials are constantly being evaluated and re-evaluated in various aerosol media.

A Glimpse Into the Future

What about the future of the pressurized package? Surely we will see further advances in this field and one of these advances can be expected in the very near future. The aerosol industry is, even now, undergoing a phase of basic standardization of aerosol containers, coatings, valves and other component parts. Producers will not be confronted with the multitude

(*Continued on Page 67*)

Three of the non-aerosol-industry speakers at the CSMA convention were Gerson Barnett (Giant Food Stores), James O. Peckham (A. C. Nielsen Co.), and Harold Schafer (The Gold Seal Co.).

CSMA Meeting Report

Nonfood Aerosol Production Seen Likely to Double in Next Decade

PRODUCTION of nonfood aerosol products will likely double in the next ten years, reaching an annual sales figure of at least *one billion units per year!* This optimistic outlook was one of the highlights of a paper by Ralph A. Crane, market research manager of the "Freon" Products Division of DuPont, given before the Aerosol Division of the Chemical Specialties Manufacturers Association as that group held its 46th annual meeting in Washington's Mayflower Hotel.

"Although food products now represent less than 20% of the total pressure packaging market," Mr. Crane's report continued, "they may become the single largest growth area in the next decade. Mr. Crane's paper was delivered by A. H. Lawrence, also of DuPont's "Freon" Products Division. He reported that much of the hoped-for rapid growth in aerosol food production hinges upon approval of a liquefied propellant offering constant dispensing pressure, hinting that DuPont hopes to provide the answer in its "Freon C318" octafluorocyclobutane now awaiting FDA approval for use in foodstuffs.

Basing his estimates upon a number of factors, Mr. Crane said the average annual production rate of the aerosol industry should increase 7½% per year during the next decade. He said his company's estimates are based on growth rate to date of the aerosol industry, an awareness of the basic reasons why the aerosol package has been so successful, and market saturation data on various leading aerosol product types.

Among nonfood aerosols, he reported, insecticides, room deodorants, shave creams, hair sprays, surface coatings, and colognes — accounted for 81% of the 1958 production of 485 million units. He suggested that these would continue to dominate the non-food aerosol market, but that they will be joined by pressurized dental cream.

He predicted that aerosol insecticides will be produced at the rate of 107 million units per year in 1968, as compared to 71 million units turned out in 1958, and will increase their share of the overall insecticide market from the present 42% to 50% in 1968.

Aerosol room deodorants, sales of which totaled 63 million in 1958, may look to a 113-million-unit market in 1968, while shave cream should jump from last year's 65 million units to nearly 100 million units by the end of the next decade.

Mr. Crane acknowledged that one of the other product categories — glass cleaners, shoe or leather dressing, polishes, medicinals and pharmaceuticals — or possibly even another product type not yet developed, could "break-through" and displace one of the established volume leaders. However, he said, the study indicated that previous volume leaders would probably hold their leadership.

Going in detail into market saturation patterns for leading product types, Mr. Crane reported that only about 45% of the homes in the country purchased insecticides in 1958, 39% room deodorants, 45% hair sprays, 31% shave creams, 22% window cleaners, 19% moth proofers, and 14% bought colognes. He predicted that the relative average use per household will climb from 1.4 in 1958 to 1.9 in 1968 for insecticides, from 1.3 in 1958 to 2.0 in 1968 for room deodorants, and from 1.0 to

1.9 for protective coatings. Hair sprays (per woman over 17) will climb from 1.9 to 3.0, colognes from 0.5 to 1.0, and shave creams (per man over 17) from 1.1 to 1.5, he predicted.

These rises in per-unit purchases could be accelerated, Mr. Crane advised, by additional consumer education and increased buying power. He reported that aerosol market acceptance is generally weakest in low income populations, in those with lower education, and in the South.★

"Dr. William Grant of Grant Specialties Co." turned out to be Billy Grant, West Coast comedian, at banquet.

CSMA Meeting Report

Nielsen Survey Predicts New Gains for Leading Products

EVEN though leading aerosol types have already secured a substantial share of the market, there is still room for substantial sales increases as the market itself expands, declared James O. Peckham, executive vice-president of A. C. Nielsen Co., New York, in a paper describing "What the Nielsen Retail Index Shows About Aerosol Product Acceptance, Sales, and Movement in Drug and Grocery Stores."

Mr. Peckham revealed that hair sprays have captured 100% of the market for that particular product, air fresheners have 72.7%, shave creams 63.2%, and window cleaners 19.9%. Turning to geographical penetration, he said aerosol sales closely correspond to all-commodity sales in the same area. "For example, New England accounts for 6.8% of aerosol sales as compared with 7.0% of all commodities, while on the Pacific Coast the figures are 15.5% for all commodities, comparing with 15.2% for aerosol products. As we might expect, Metropolitan New York, the Mid-Atlantic section, and Metropolitan Chicago show a somewhat stronger relative development for aerosols, whereas the West-Central and Southeast sections are relatively underdeveloped. These are minor points, however, the major ones being that aerosols have won a surprisingly uniform acceptance throughout all geographic areas."

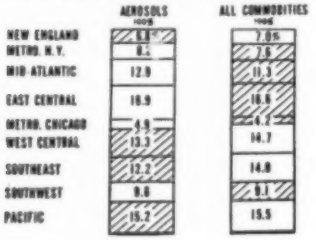
This pattern is repeated in a study of the market by size of community, he reported, and aerosol products sell better in highly urban and semi-urban, than in rural areas.

"More important than the geographical and city size dispersion is the extent to which food/drug consumer sales of aerosols are continuing to expand in the five measured product groups (hair sprays, shave creams, air fresheners, window cleaners, and hair tonics). Starting with 1957 as an index of 100, we see that consumer sales of aerosols in these five measured product groups increased 17 points in 1958, 18 points in 1959, to date, and we estimate that these same five measured product groups will achieve a gain of another 15 points, or approximately 11%, in 1960. Please bear in mind that we are dealing only with these five measured product groups. The aerosol field as a whole should show substantially greater expansion than this as new products are converted to aerosols and as some of the newer product groups already introduced (but not covered in our survey) really get going on the sharply rising part of the growth curve.

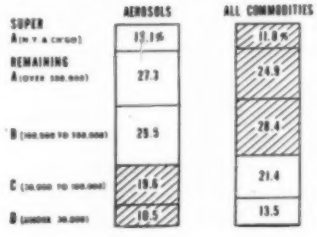
"Some idea of what happens when the aerosol development results in a really outstanding product-package improvement is shown by the 11-year trend of shave creams (four years prior to the introduction of aerosols and seven years subsequent to their introduction). Observe that in the three years from 1947 to 1950 consumer sales of shave creams increased only 8.0%, with virtually no change during 1949 and 1950. Aerosols were introduced in 1951 and were accompanied by a sharp upward expansion in shave cream sales to an index of 209 in 1958—representing almost a 100.0% growth for the entire mar-

(*Continued on Page* 67)

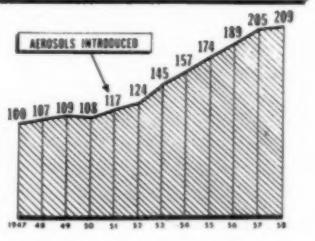
HOW DO FOOD/DRUG CONSUMER SALES OF AEROSOLS IN THESE FIVE MEASURED PRODUCT GROUPS DIVIDE BY GEOGRAPHIC AREA ?



HOW DO FOOD/DRUG CONSUMER SALES OF AEROSOLS IN THESE FIVE MEASURED PRODUCT GROUPS DIVIDE BY SIZE OF COMMUNITY ?



HOW DID THE INTRODUCTION OF AEROSOLS AFFECT THE CONSUMER SALES OF SHAVE CREAMS ?



Top row: Don Murphy (Gilbert Plastics) and Al Pero (Packaging & Plastics Co.). E. R. Husted (Union Carbide), Robert Webster and Louis A. Reiser (Air Reduction Co.). Fred Pickering (VCA), Fred Gardner (Powr-Pak) and Art Chivvis (Union Carbide).

Bottom row: Bob Allen (Wheaton), Sig Was (Emson Research) and Bill Brosie (Stalfort). R. A. Fulton (USDA), Baxter Scoggin (Cook Chemical), and Clarence Carter (Continental Filling). Jack Wittke (Oil Equipment), Richard Monahan (American Red Cross) and Curt Hollopeter (Owens Illinois).

CSMA Meeting Report

Aerosol Profit Margin Called Major Factor for Food Chains

THE major appeal of aerosol products to grocery chains is that they have increased both dollar volume and profits without causing grocery chains to suffer a loss of business in non-aerosol packaging. This fact was revealed by Gerson Barnett, director of purchasing of Giant Food Stores, Landover, Md., in a talk on "What Grocery Chains Think About Aerosols" before the Dec. 8 session of the CSMA's Aerosol Division. Mr. Barnett revealed that in 1958 the number of dollars of aerosol products sold through food stores amounted to $206,800,000, which was an increase of 21% over the previous year and represented almost *four times* the total amount of aerosols retailed in the U. S. in 1951, only seven years prior!

"This retail volume was done at a margin of profit for the grocery chains that is considerably higher than the average margin of all other products retailed by grocery chains," he declared, pointing out that this increased business in many cases represents an entirely new source of volume and profit for the food retailing industry. "When you consider that this substantial volume is going through our retail outlets with a minimum of shelf space, at an above-average margin of profit computed on a larger-than-average retail sale price, then you realize what a significant contribution the aerosol industry has meant and is continuing to mean to the retail food business . . ."

Mr. Barnett also complimented the aerosol industry on producing its products with a view toward volume sales, on constantly improving its package, and on its growing awareness of "relative retails so that your products have become a value in relation to other items competing for the consumer dollar." He also saluted the industry for its advanced research toward developing new consumer products, but said the grocery industry is probably *most* impressed by the general consumer satisfaction enjoyed by aerosol products.

Turning to the subject of how the prestige of the industry and of its product might be enhanced, Mr. Barnett emphasized that the industry should be very much concerned with the quality of its product. He also pointed out that grocery chain executives want to know more about the aerosol industry, so that closer coordination of marketing and sales policies, package design, and promotion can be achieved.

Predicting a brilliant future for both supermarkets and the aerosol industry, he declared: "There is no question that you will have to prepare yourselves to be extra efficient, provide the maximum of service to your customers, keep competitive, offer top quality and value, and continue to manufacture and offer an ever increasing variety to please the desires of the modern American family."★

Probably the hardest working of the CSMA's committees is the Aerosol Division Scientific Committee. Walter Beard (Risdon) seated, chairman, is flanked by Morris Root (G. Barr) and John Buchanan (Continental Can) committee members.

CSMA Elects Fiero President, Beach Vice-President

George W. Fiero of Esso Standard Oil Co., New York, was elected president of the Chemical Specialties Manufacturers Association at the organization's 46th annual meeting. Charles F. Beach, of John C. Stalfort & Sons, Inc., Baltimore, was elected first vice-president, thus becoming the second aerosol executive to achieve that post in three years (Harry Peterson, of Peterson Filling, was elected first vice-president for 1956 and became president of CSMA in 1957.)

George W. Fiero

In a surprise move, H. W. Hamilton, longtime secretary of the association, was named to the newly-created post of executive vice-president. To succeed him as secretary, A. A. Mulliken, former assistant secretary was elected.

Another long-term tenure came to an end with the election of Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York, to be treasurer. He succeeds Peter C. Reilly, Reilly Tar & Chemical Corp., Indianapolis, who served ten years as treasurer.

Charles E.Beach

The other key officer elected was second vice-president, Charles E. Allderdice, Jr., The Bell Co., Chicago. Elected to three-year terms on the board of governors were Donald M. King, Masury-Young Co., Boston, Mr. Reilly, Joseph E. Lee, McLaughlin Gormley King Co., Minneapolis, and Joseph J. Tomlinson, General Chemical Division, Allied Chemical Corp., New York.

Dr. Fiero has been engaged in research and development work covering nearly all products in the various CSMA divisions for the past 25 years. His experience includes 14 years of university teaching and research and three years with the War Production Board during World War II. He holds a master of science degree from the University of California, a doctorate in pharmacy from the University of Buffalo and a Ph.D. from the University of Wisconsin.★

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CSMA Meeting Report

Aerosol Good Package First

THERE is a natural tendency to think of the pressurized package first as an aerosol and as a "package" hardly at all, William C. Sims, associate editor of *Modern Packaging* told the Dec. 8 session of the Aerosol Division. "Despite the fact that the aerosol has been one of the three or four most significant packaging developments in the last two decades, it should *not* be excepted from normal good packaging techniques.

"Like the 'Ugly American', early high pressure aerosols had lots of muscle but little appeal," Mr. Sims pointed out. Since that time aerosol package designers have not really made good use of the necessary directions in their product design. Instructions should be made large enough to read and designers should think about attaching a special tag where directions can't be integrated into the general design, he suggested.

"The aerosol principle should never be relied on *alone* to sell the product. It has been proven that package revision almost invariably results in increased sales, and the more promotable the package the more favorable sales position it will be in." As guideposts, he suggested:

(1) The package must work.

(2) It must communicate.

(3) The design must be appropriate.

(4) It must give the product an "edge" over its competitors.

Mr. Sims advised the aerosol marketer to make a periodic individual packaging audit of each of his packages. Such aspects of it as function, economy, consumer acceptance, eye appeal, etc., can all be figured against the packages of competitors in a set

(*Continued on Page* 67)

Richard Gergle (Dow Corning), Fred Taylor (Lehn & Fink) and Richard Kraus (Stalfort). Sig Was (Emerson Research), S. W. Henrichs and Bud Lindsay (van Ameringen-Haebler), and John Armstrong (Armstrong Laboratories). Charles Rader (Aero-Chem Fillers), Charles Gray (Union Carbide) and Bob Bagley (Boyle-Midway).
Bottom Row: T. R. Herst (Foster-Forbes Glass), Phil Meshberg (Emson Research) and Joe Raitt (Strong Cobb Arner). Earl Graham (Clayton), Ed McKernan (E. R. McKernan Co.) and Joe Tomlinson (General Chemical). Fred Presant (Aerosol Techniques), Joe Pizzurro (Precision Valve), and Dean Rockwell (Tube Manifold).

CSMA Meeting Report

Aluminum Seen Becoming Significant Container Material

FUTURE improvements in can making technology, plus a narrower price differential between tinplate and aluminum, could bring about larger and larger volumes of aluminum aerosol cans for packages of six ounces and up, Dr. J. M. Jackson, manager of the special investigation section of American Can Co., New York, said in a talk titled "The Status and Future of Aluminum Aerosol Containers."

Dr. Jackson pointed out that the improved decorative effects possible with aluminum would undoubtedly become a major selling point, as competition becomes keener and package design more proficient in the aerosol package. He said that variations in the basic design, to allow for individual trimming and decorative effects, coupled with improvement of organic coatings, would go far toward making aluminum a stronger volume contender with tinplate.

Currently, the economic advantage is with tinplate, he said, but this is gradually narrowing as steel costs go up. Another current disadvantage of aluminum is that it is basically *less* corrosion-resistant than tinplate, although it has proven to be competitive for the "less corrosive products." Another saving factor for aluminum is the fact that stepped-up distribution has reduced the service life problem for all aerosols.

As some of the more tangible advantages of extruded aluminum, Dr. Jackson mentioned: high bursting strength, all-around lithography possible because of seamless construction, possibility of embossed designs on shoulder areas, ease of application of internal coatings, freedom from rusting in transit and before filling operation, and lighter shipping weight. The fact that the containers are less corrosion resistant (thus necessitating internal coating), have certain buckling and bursting weakness at the bottom, are more vulnerable to denting (prior to filling), and their walls must be thicker gauge for reasons of strength, were all listed as problems which must be

(*Continued on Page* 66)

Sales Effort Called All Important

A GOOD product, widespread advertising campaign, and solid distribution are all steps toward sales success for an aerosol product, but "the personal touch in sales" should never be overlooked, Harold L. Schafer, president of the Gold Seal Co., Bismarck, N. D., told the Dec. 8 session of the Aerosol Division. Mr. Schafer's company recently introduced its first aerosol product, a charcoal lighter called "Siz."

There is no substitute for selling, he emphasized, and neither television advertising nor anything else can be looked on as the "final answer." The consumer does not *need* the aerosol package, even though it may be a pleasant experience for him to use it, he pointed out. Therefore the problem of how to sell the product is accentuated, and "the brainpower and leg power devoted to sales efforts becomes directly relevant to the eventual market success of the product."

Complimenting the aerosol move-

(*Continued on Page* 66)

Solubility Symposium Highlights CSMA Meeting Technical Papers

GLYCOLS, glycol-ethers, and polyglycols show promise as solvents for pharmaceuticals in aerosol formulations, particularly as substitutes for ethyl alcohol which sometimes causes an undesirable cooling effect or irritation in skin applications.

Logical applications, Dr. P. A. Sanders of DuPont's "Freon" Products Laboratory, keynote speaker in a "Solubility Symposium" told the CSMA's Aerosol Division, are topical anesthetics, antiseptics, burn preparations, antibiotic preparations, and similar products for external application. The glycols, because of their relatively low toxicity, also should be useful in formulation of cosmetic items, he said.

In his paper, titled "Studies of Freon Propellant/Glycol Systems," Mr. Sanders also pointed out that such glycols may also be formulated as aerosols either *without* cosolvents or they may be formulated with ethyl alcohol as a cosolvent.

Enlarging on the first of these points, Mr. Sanders said "The substitution of dipropylene glycol methyl ether for ethyl alcohol reduces the solubility of the propellants in the glycol mixtures slightly, but the areas of acceptable sprays are still sufficiently large to permit the formulation of almost any type of aerosol product." He demonstrated the performance of this with diagrams showing systems composed of propylene glycol and dipropylene glycol methyl ether mixtures with propellants 114, 12 and a 50/50 mixture of 12 and 11.

The second of these points he demonstrated with the same components, except he substituted mixtures of dipropylene glycol methyl ether and ethyl alcohol for propylene glycol and dipropylene glycol methyl ether mixtures. "In this type of system, the phase boundary no longer exists since all the components are mutually soluble. The base line between the propellant and dipropylene glycol methyl ether defines the pressures and spray characteristics of propellant-glycol solutions alone. The area of acceptable spray characteristics for the three component mixtures is defined by the base line between the glycol and propellant, the base line between ethyl alcohol and the propellant, and the limiting spray boundary."

Mr. Sanders cautioned that selection of a suitable glycol will depend on its toxicological properties, as well as its solubility characteristics. "This is particularly true of aerosol products formulated for topical applications. On the basis of published data, many of the glycols appear to be suitable for topical applications. Toxicological data for some of the more recent glycols are not available but it is possible that future work may show many of these to be satisfactory for application to the human skin.

Returning to adequacy of solubility properties, Mr. Sanders cautioned that another limiting factor might be odor characteristic. "In products where the presence of ethyl alcohol is not objectionable, almost any of the listed glycols can be used in combination with ethyl alcohol to give a homogeneous aerosol formulation with satisfactory spray characteristics.

". . . Pressures below 25 psig at 70°F. may be desirable for some products. A survey of charts indicates that with 'Freon 12' or 'Freon 12/11' (50/50) as the propellants, the area of acceptable spray characteristics for pressures below 25 psig is generally rather limited. For these cases, it is usually better to select a low pressure propellant, such as 114, 12 and 114 (15/85), or 12 and 11 (30/70)....

"In formulating some products, it may be desirable to eliminate ethyl alcohol as a solvent. For this purpose, a glycol that is completely miscible with propellants may be considered. As an example, dipropylene glycol methyl ether is miscible with any of the listed propellants and may be an excellent solvent for aerosol formulations. It has a relatively low viscosity and is reported to be suitable for use in cosmetics and other products to be applied to the skin. Combinations of glycols may be used with the propellants. . . .

"Glycols such as propylene glycol and polyethylene/glycol 400, that

(*Continued on Page* 61)

T. C. Gruhler, vice-president of Avoset Co. (right), receives Grand Award of 1959 Aerosol Packaging Awards Contest from Fred Lodes (Lodes Aerosol Consultants, Inc.), for the company's "Qwip" topping package.

CSMA Meeting Report

Author Charges U. S. Firms "Top Heavy" With Executives

MANAGEMENT of major, and in some cases minor, U.S. firms is becoming increasingly top heavy with executives, charged Cameron Hawley, author of "Executive Suite" and "Cash McCall" and a former top executive of Armstrong Cork Co., in a luncheon address at the CSMA meeting in Washington. "Our industrial system is about to be challenged in such a way as it never has before, and yet our economy —for this and other reasons—is far from being in fighting trim.

"The havoc of the 1958 depression was a *shocking* expression of the state of U. S. business. Contrary to what is generally believed, union demands for higher wages were *not* the real source of weakness. The wage differential is not so important as has been thought. For every penny difference in wage level the industries of Europe and Asia have us whipped by nine cents in general overhead burden!

"By far the most wasteful, costly, and inefficient use of labor and general costs is at the top level. For instance, in one firm I studied there were 42 top executives. In a company of similar size and capacity in West Europe, there were just nine executives. Many a major U. S. company spends more on consulting fees than a corresponding European firm spends on its entire executive personnel!"

Mr. Hawley emphasized that second-level executives in U. S. firms have to be "brought up" to assume single leadership responsibility. They hesitate to assume any direct responsibility, he charged, and instead the main issue is usually observed in a maze of meetings.

"Our major weakness in this area is that so many of these second-level executives spent their formulative years during the Great Depression, and have acquired a profound reaction to the dictatorial exploitation by big business. They consider themselves enlightened about the ways of business, and have substituted group thinking, or the committee system, for direct action in nearly every particular. The president of a major corporation is now usually more of a super committee chairman, and his co-committeemen bear titles like director of community relations, labor relations, Washington relations, or public relations.

"The concept of 'one big family' is considered the ideal for big business, and the perfect president must be democratic, a good coordinator, and quiet. Business management has become a profession, and the professional attachment of a lawyer or doctor has become the guiding tenet. Individual action, intuitive decisions cannot be a part of this, and the key executive is expected to call in management consultants, motivation researchers, etc. to guide him in reaching a decision that in nine out of ten instances he would have arrived at anyway!"

This type of thinking, he pointed out, encourages the president to hire a lot of people to whom he can pass the buck; and this passing the buck gradually filters down to all the vice-presidents and other executive personnel.

"Leadership is a personal thing, and is inevitably focused on one man," Mr. Hawley declared. "American business management has gone a long way off the beaten path." If this trend keeps up, American business will be in no position to compete with the Free World, let alone the economic power of the Communist world, he concluded.★

Aerosol Movie Device Termed "Failure" By Motion Picture Critics

THE first attempt to employ an aerosol device to project odors with motion pictures was at least a failure with the critics. The device, aimed at generating specific odors to coincide exactly with scenes in the film, was initiated last month in New York for a picture called *Behind the Great Wall*.

The process used is called "Aroma-Rama"* and was developed by a public relations executive named Charles Weiss for Continental Distributors, Inc., New York. It employs a "scent track," attached to the film in a similar manner to the sound track, which transmits impulses to an electronic battery of pressurized scents which propels the aromas out the air conditioning ports of the theatre. Creators of the system claim they can reach the nose of every patron in the theater within two seconds.

As the particular scene in the movie changes, the scented air is drawn off (again through the air conditioning system) and is passed over electrically charged baffles which are supposed to precipitate the perfume particles. "Freon" is the propellant in the system, and the scents were developed by Rhodia, Inc., New York.

The picture itself, a technicolor travelogue filmed in Red China by Italy's Count Leonardo Bonzi, received good critical reviews. In fact, the colors and some of the scenes, were termed "magnificent" by New York reviewers. But the aroma projection system came off somewhat battered by reviewers for *Time* Magazine and the *New York Times*. Bosley Crowther, respected

(*Continued on Page* 61)

*Another system, believed to operate on similar principles, will be introduced this month by Mike Todd, Jr., for his "Smell-O-Vision" production, *Scent of Mystery*.

Foreign Patents...

the U. S. aerosol executive may be losing needed protection by neglecting to register patents overseas!

TIMELY consideration of the foreign market potential for a new product or development is often neglected by the American aerosol executive, preoccupied as he is with the initiation of a domestic marketing and sales program. Later on, intrigued by the possibilities of international business, he finds that such prospects have partially or wholly evaporated into thin air — merely because he neglected to take one important step: to make early application for patents in those countries where his product might find a market.

Although regulations vary from country to country, it can be said, as a rule of thumb, that no worthwhile patent protection can be obtained abroad unless a patent application is lodged with a foreign patent office within one year of the date of the United States application, or (after expiration of that year) before public disclosure of the invention has taken place in the country in which patent protection is sought. By far the safest course to pursue, therefore, is to file patent applications abroad *within* the one year 'priority' period, because it is only within this time limit that a patent application in this country provides simultaneous protection abroad. Thereafter, no foreign protection whatsoever is afforded by a United States patent application or issued patent, and any foreign patent or patent application made after the expiration of the one year 'priority' period must rest on its own merits regarding examination as to novelty.

By Andrew H. Wolff
Vice-President
Pegasus International Corp.
New York, N. Y.

Foreign patent applications are disallowed, or issued patents are declared invalid, generally on the submittal of proof by competitive foreign interests that a *prior public disclosure* of the invention was made *before the date of filing* in the foreign country involved. Public disclosure of an invention generally is either by the forwarding of operational samples to overseas destinations or by publication in a periodical *distributed* (but not necessarily printed) in the foreign country concerned.

THAT operational samples constitute "prior disclosure" is self-evident. Rare indeed is the article that cannot be analyzed, tested, measured, and otherwise examined to provide all the information necessary for duplication abroad by any but the most backward foreign industries. Many American aerosol firms have and will forward samples of products which have taken years of development to foreign countries, without any specific investigation as to whether the inquiry for the sample stems from a back-alley marginal manufacturer or from potentially a very important customer. Actually, the sending of such samples might result in irreparable harm being done, through such prior public disclosure, to future plans for obtaining patent protection in the country concerned.

Whether publication actually results in public disclosure — to the detriment of foreign patent applications — may be determined by asking the following question regarding what is actually published: does the description of the invention—whether written or pictorial or both—provide sufficient information *to one skilled within the general field under consideration* to enable that person to successfully duplicate the invention without assistance? Hence the photograph of the exterior of a product where the inner workings are not shown would *not* constitute evidence of prior disclosure, while a cutaway photograph, outline drawing, or blueprint, would most likely constitute quite sufficient evidence of prior disclosure. These conditions pertain equally to paid advertisements, or technical articles within the periodical proper.

Most American trade magazines, excluding those specifically directed to the international market, have anywhere from five to perhaps as high as 20% paid subscriptions originating from foreign readers. That

See Tremendous Sales Potential For Aerosol-Sprayed Paints
NEW YORK, N.Y. (Special) Sales of aerosol paints to the "do-it-yourself" home market have increased 158% in just 2 years, yet
SALES OF AEROSOL PERFUME UP 518% IN JUST 3 YEARS
NEW YORK, N. Y. (Special) 1958 sales of aerosol perfumes and colognes shot up to a record 28 million units—an increase of 518% over the 5.4 million units sold as recently as 1955.
PRESSURE-PACKED DRUGS SHOW 50% SALES INCREASE IN '58
CHICAGO, ILL. (Special) Pharmaceuticals were the fastest growing of all aerosol product groups, according to sales figures released by the Chemical Specialties Manufacturers Association. Pressure-packed drugs showed a sales increase of 50% in 1958 over 1957, compared to a 20% increase for all aerosols.
Aerosol Packaging Expands Household Insecticides Market
NEW YORK, N.Y. (Special) Aerosols have been responsible in large degree for increasing the total market for household insecticides during the past decade. The aerosol form has taken over an ever-increasing share of the market.
genetron

Behind the headlines...

VERSATILE genetron® AEROSOL PROPELLANTS

General Chemical offers aerosol fillers and marketers a broad line of "Genetron" propellants for producing virtually every type of aerosol product.

These propellants are compatible with each other and can be blended together to obtain a wide range of pressures and solvent properties. Our aerosol specialists will be glad to help you determine the right "Genetron" propellants for your product, its container and its uses.

genetron 12—11 Mixes

Mixtures of "Genetron" 12 and 11, used in varying proportions, constitute the bulk of propellant requirements for a variety of pressurized products. These mixtures offer optimum vapor pressures, excellent compatibility with numerous materials, and economy.

genetron 12 (Dichlorodifluoromethane)

Compatible with many product ingredients. Used in formulations where high vapor pressure is required, such as in paints and lacquers.

genetron 11 (Trichloromonofluoromethane)

Good solvent properties. Used primarily as an effective pressure depressant on "Genetron" 12.

genetron 114 (Dichlorotetrafluoroethane)

Used primarily in place of "Genetron" 11 in certain formulations (specifically those containing water) to achieve product stability. Mixtures with "Genetron" 12 have made possible a number of new aerosol products in the drug and cosmetic field.

genetron 142b (Monochlorodifluoroethane)

Used increasingly as a propellant for cosmetics containing substantial proportions of alcohol (perfumes, etc.). Like all "Genetron" propellants, it maintains constant vapor pressure and uniform performance during entire discharge of the aerosol. Its high vapor volume and low liquid density enable manufacturers to formulate a greater volume of product ingredient per ounce of propellant.

genetron 142b—114 Mixes

Blend well with alcohol—ideal for perfumes, colognes and other personal products (actually enhances fragrance). Low vapor pressures permit glass and plastic packaging. Containers look fuller because of low liquid density of propellant.

Other "Genetron" propellants are offered for use principally as blending agents:

genetron 113 (Trichlorotrifluoroethane)

Has good solvent properties and low vapor pressure. Particularly suitable for blending with other "Genetron" propellants in such formulations as dry powders or foam products.

genetron 22 (Monochlorodifluoromethane)

Used as a blending agent where its high vapor pressure and excellent solvent properties are required.

genetron 152a (Difluoroethane 1-1)

Has unique solvent characteristics that make it useful in water base aerosols.

Special propellants are available for use where special properties are required, including:

Methylene Chloride*
Methyl Chloride*
Vinyl Chloride*

For further information about these propellants, or a confidential discussion of your requirements, write today to "Genetron" Dept., General Chemical Division, Allied Chemical Corporation.

*Products of Allied Chemical's Solvay Process Division.

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only VCA has every type valve...

nobody offers you more!

Today, there is a VCA quality valve for your every need... liquid or viscose, powder or cream; pressure or cold filling; nitrogen or other propellent; any concentrate or formulation. Air fresheners, cosmetics, deodorants, foods, garden sprays, hair grooms, industrial chemicals, insecticides, tooth pastes, etc.

VCA BOTTLE VALVES

VCA STANDARD CAN VALVES

For Aluminum and Tin Plated Containers.

A completely assembled valve with a 1" tin plated, unpainted cup with a flowed-in gasket; all brass parts or stainless steel with nylon stem. Actuators to match or custom molded, with or without mechanical break.

VCA METERED VALVES

For Stainless Steel, Aluminum, Glass or Plastic Containers.

A completely assembled valve with a 1" tin plated, unpainted cup with flowed-in gasket; plain or anodized aluminum ferrule with bottle gasket. Brass or stainless steel parts, fill mg to 150 mg. Actuators to match or custom molded.

VCA
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this wide dissemination abroad, not only of information on advances of American technology but also of advertising and promotional material on American products and services, is of great value to industry in this country is without question. Besides interesting the foreign buyer in what American industry has to sell, it provides a steady reminder to the industrial leaders overseas that the United States is maintaining a most satisfactory level of industrial progress—even if the moon is still untouched by an American projectile! The amount of technical and commercial information contained in trade magazines published in the U. S. never ceases to amaze the foreign reader, disinclined as he is to talk about, let alone publish anything about, his production or business practices. While some readers overseas may consider such disclosures in print as being absolutely foolhardy, the bulk of opinion is one of grudging admiration that we can tell so many trade 'secrets' and *still* sell so much!

Yet the giving away of such 'secretss by American firms anxious to develop markets and cultivate customers domestically through trade magazine media often can prove disastrous when that same firm, having established its home market, turns its attention to markets abroad. Efforts to then obtain foreign patent protection are usually frustrated by prior disclosure of the invention in an American publication distributed abroad.

It is also important to remember that the *issuance* of a United States patent, while a matter of perhaps some happy concern to the applicant, also constitutes publication abroad. Almost all foreign patent offices routinely receive copies of newly issued United States patents. Since a patent *per se* is supposed to be a complete disclosure of an invention, and since once received by the foreign patent office it is available for examination by the public of that country, it is evident that this constitutes an immediate bar to the issuance of any foreign patent in that country because of the principle of prior public disclosure.

The costs of filing and prosecuting a foreign patent application vary, but as a general rule are seldom under $250.00 per application per country. Therefore, filing in each and every country of the world could be a very expensive procedure, and most often is not necessary. A patent attorney or international business consultant can, depending on the nature of the product, generally narrow down the number of countries to under 20—sometimes under 10 — where the money spent justifies the protection obtained. While this may still represent a substantial investment, there most often are two compelling reasons why the expenditure should be made. Without foreign patent protection any entrepreneur abroad is free to duplicate the invention *without* compensation to the American inventor. While a foreign patent application filed by foreign interests on an idea pirated from the American inventor will usually be denied by a foreign patent office, the red tape involved in the submittal of evidence to prove such piracy is involved, costly, and time-consuming. The same applies should a 'bogus' foreign application be issued on a patent.

Without foreign patent protection the negotiation of manufacturing

(*Continued on Page* 67)

Aerosol Equipment Scarce at Chemical Show

FILTERS, weighing devices, conveyors, product homogenizers, pumps and conveyors, and other specialized line and ingredient handling equipment attracted principal aerosol industry interest as the 27th Exposition of Chemical Industries closed a week's stand at the New York Coliseum on Dec. 4. However, the aerosol "tourist" attempting to find general equipment of interest to himself and his company found himself lost among a battery of such things as colloid mills, crushers and grinders, industrial ovens, gas diffusion machinery, and other cumbersome equipment usually associated with the *heavy* chemical industry.

On all the four floors of the Coliseum there were just three of four units specifically designed for aerosol use. The Arthur Colton Co., Detroit, again showed its Model 1651 nine-section aerosol filler, which had been previously demonstrated at the Packaging Machinery Show earlier in November.

Buschman Products Inc., New York, exhibited its "Jetmogenizer," a product homogenizer that is reported to produce more stable emulsions for aerosol packaging. In its booth was a unit which had run for six months, three shifts per day, at the Peterson Filling & Packaging plant without an hour's down-time.

The new gravity filler for liquid products was demonstrated in action by Ertel Engineering Corp., Kingston, N. Y., which also showed its complete line of filters and filter sheets. The gravity filler, called the "EGR" model, is a new one introduced the previous month.

Filters were also shown by Hercules Filter Corp., Hawthorne, N. J.; Commercial Filters Corp., Melrose, Mass.; Niagara Filters Division of American Machine & Metals, Inc., East Moline, Ill.; and the Star Tank and Filter Corp., New York. Pumps and compressors were also much in evidence. In this category were Ingersoll-Rand Co., New York; Nash Engineering Co., South Norwalk, Conn.; American Meter Co., Philadelphia; LaBour Co., Elkhart, Ind.; and the Manton-Gaulin Mfg. Co., Everett, Mass.

Among the other equipment of interest:

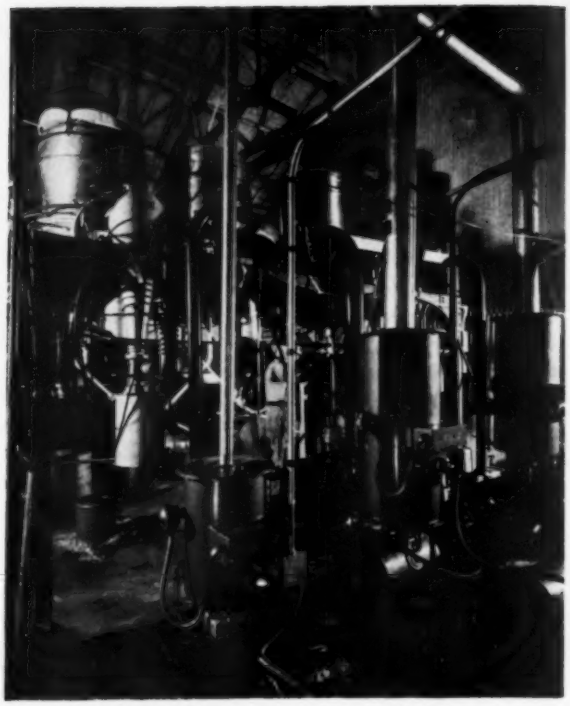
A pH meter (Analytical Measurements, Chatham, N. J.).

An electronic level control for examining and rejecting filled cans (Industrial Nucleonics, Columbus).

A gas analyzer and leak detector (Mine Safety Appliances Co., Pittsburgh).

A particle size analyzer (Coulter Industrial Sales Co., Elmhurst, Ill.).★

Prentiss Unveils New Pyrethrum Processing Plant



In this photo of some of the complicated equipment necessary for the process, the three stills can be seen at upper left.

A NEW type pyrethrum extraction unit, which makes use of a triple distillation process, has been put into operation by Prentiss Drug & Chemical Co., New York, at its Newark, N. J., manufacturing plant. This unit, said to be capable of turning out high-grade 20% colorless pyrethrum and pyrethrum-piperonyl butoxide formulations at a rate of 100 pounds per eight-hour day, is expected to give Prentiss added market strength in selling to formulators of aerosol and other household pesticides. Pyrethrum is one of the most commonly used ingredients in aerosol insecticides, and is one of the only insecticides to which insects have apparently developed no resistance.

The new unit, which is the first installed in the United States, was built by Prentiss on a license arrangement from Cooper, McDougald & Robertson, Ltd., Berkhamsted, Herts, developer of the process. It is also the first such unit constructed anywhere "from the ground up." All the equipment except the refrigeration units was imported from England, including a 12-foot-wide instrument panel from The Stabilag Co., Ltd., Hemel Hemsted.

The critical problem in the process is the distillation of the raw pyrethrum extract, a heat-sensitive material, in a manner that will not destroy the active insecticidal ingredients. The raw extract, which is taken from pyrethrum flowers grown in Kenya and the Congo, is introduced into the Prentiss unit just as it arrives from the African extraction plants—as a pitch-like substance. The raw extract contains substantial portions of hexane and other petroleum fractions, introduced in the African plants to act as the liquid vehicle for the material.

THE petroleum fraction is distilled off in the first of a series of three stills, arranged so that specific components are removed under successively higher vacuum (and at successively higher temperatures). The stills are constructed of stainless steel. The petroleum fraction extracted in the first still is pumped to a storage tank for later use as the vehicle for the highly purified pyrethrum concentrate.

The second stage takes care of what Prentiss chemists call "pre-cutting." The material remaining from the first distillation is heated further (to about 175°C., against the 130° in the first still) and from it is extracted a material containing a substantial percentage of pure pyrethrins.

The lower fraction of material from the second still passes to the third (and final) unit, where it is heated to 230°C. to extract a light yellow material very high in pyrethrin content. The yellow color here (and in the product of the second still) is mainly due to the waxy residue which is a familiar characteristic of pyrethrum extract. By calculated mixing of the products of the second and third distillation processes, together with the petroleum fraction from the first still, a material in color from yellow to almost white can be obtained—with no sacrifice of toxicity to insects.

The 12-foot instrument panel men-

Miracle of the Can:

how it changed the habits of the world

One hundred and fifty years ago, Peter Durand, an English merchant, was granted a patent for vessels of "pottery, tin or other metals of fit materials." Thus, the miracle of the can was born. This early "tin cannister" packaged foods in sealed containers . . . and changed the habits of the world.

Today, not only food but an almost infinite variety of things we use and enjoy comes in metal containers. Paint, chemicals, household specialties . . . these are just a few of the products brought to us conveniently, economically . . . by the "miracle of the can."

Can manufacturers everywhere, in the U.S. and abroad, are enthusiastically preparing to participate in the Sesquicentennial of the Invention of the Metal Can. You may want *your* company to take advantage of this great opportunity to tie in with this important observance. The Sesquicentennial may be used as a springboard for stories, advertisements and promotions that can serve each organization's special needs.

American Can Company is proud to be a part of this great industry as it observes its 150th anniversary. Canco's continuing program of research and development is pledged to provide still better packaging for the products of agriculture and industry.

American Can Company

The control panel of the plant is this English-built unit which measures weight of feed and product tanks and pressure and temperature of each of the three stills. Ronald McIntyre, of Cooper, McDougald & Robertson, is shown adjusting one of the controls.

tioned earlier is an integral part of the whole process, for it keeps an accurate measurement of temperature and pressure in the three stills and of the weight of the raw material tank, of the tank used for the petroleum fraction, and of the tank into which the final product is pumped. Every ten minutes a check and listing of weights, temperatures and pressures of all three stages are made, to permit Prentiss technicians to keep a tight control on the entire process.

According to Ronald McIntyre, of Cooper, McDougald, & Robertson, who erected the unit for Prentiss, the three-stage system is necessary because of the acute heat sensitivity of the raw material. "It should be emphasized," he declared, "that this is not a true *molecular* distillation, but rather a combined 'sweating out' of specific components." He explained that the first stage is to "strip off" the petroleum fraction, the second is to reduce the oil content, and the third is to extract the pyrethrins from the pitchy black residue, which is the only waste material discarded in the process.

John Stoddard, Prentiss vice-president, terms the process the most efficient and the most economical method of pyrethrum extraction in operation today.★

New Plant for Dupli-Color

Dupli-Color Products Co., Chicago marketer of aerosol paints, last month acquired 156,000 square feet of land for construction of a new plant. The site is located in the Centex Industrial Park at Elk Grove Village, one-mile northwest of O'Hare International Airport, outside of Chicago.

The building will be a one-story structure of about 56,000 square feet of floor area. Cost of the land, building, and equipment will be in excess of $850,000. A company announcement said the plant will be "one of the outstanding aerosol paint packaging plants in the country."

Dupli-Color has been operating from offices and manufacturing sites in three separate buildings on Chicago's Southside. It will consolidate its operations in the new plant, which has railroads, major toll roads, and the airport close at hand. The company markets nationally through automotive distributors, chain stores, department stores, hardware and housewares jobbers. Dupli-Color products also are manufactured in England and West Germany.

Two Can Makers Announce Price Increases

TWO of the major can makers in the U. S. last month announced plans to boost their prices as the result of a new contract, signed Dec. 8 with the United Steelworkers Union, providing for pay rises. American Can Co. and Continental Can Co. both announced increases, American's to begin Jan. 15 and Continental's slated to come somewhat later.

The new labor contract called for a general wage increase of 28.2 cents per hour effective in 7-cent per hour increments on October 1 of 1959, 1960, and 1961. In addition, improvements in pension and insurance programs will be effected during the first two years of the three-year contract. Cost of living adjustment provisions of the prior agreement were continued, with the provision that no cost of living adjustment will become effective prior to Oct. 1, 1960 and the cost of living adjustment during each of the second and third years will not exceed 3 cents per hour.

American Can's announcement said "Although prices will be slightly higher effective Jan. 15, in most cases they will remain well below levels prevailing prior to a new pricing policy established in November, 1958. Customers are being informed that the revised prices are guaranteed to Dec. 31, 1960, provided there are no cost increases in steel plate directly related to metal containers." In view of the steel industry negotiations with the same union as that serving the can makers, the last statement is in definite danger of revision.

The most recent previous round of increases for metal cans was made in November, 1958, but since that time reductions were made in January and April as the result of technological advancements in can making techniques.

FELTON
Sunarome®
(2-ethylhexyl salicylate)
THE PERFECT SUN-SCREENING AGENT

FELTON
Sunarome®
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THE PERFECT SUN-SCREENING AGENT

SCC, TGA Hear Papers on Hair Spray Resin, Use of Drugs in Aerosol Products

A NEW resin, the vinyl acetate copolymer, has shown indications of becoming increasingly significant in formulations for aerosol hair sprays and similar products, Paul Weitz, of the technical market development department of National Starch and Chemical Corp., New York, told the Dec. 2 annual technical meeting of the Society of Cosmetic Chemists at New York's Commodore Hotel.

The ability of the copolymer to form a water soluble salt by neutralization with AMPD (2-amino-2-methyl-1, 3-propanediol), Mr. Weitz said, is a useful formulating tool. He showed by curves the comparison between the rate of moisture pick-up for the vinyl acetate copolymer and polyvinyl pyrollidone, another water and solvent soluble resin.

"The experience of companies using this resin shows that it has satisfactory affinity for hair, good luster and curl control, and is non-hygroscopic, non-tacky, and soap soluble. Commercial cold filling methods can be used, and tin-lined cans are used without corrosion problems."

Among the other characteristics attributed by Mr. Weitz to the resin are that it is colorless, odorless, grease resistant, light and heat stable, has good long-term aging in liquids, resistant to bacteriological decomposition, and solubility in all common solvents except aliphatic hydrocarbons. He reported that mixtures of propellants 11 and 12 could be used, and that acetone, ethyl acetate, and methylene chloride could be added to maintain solubility. He said that complete data on skin and eye irritation would be available in February, but that data recorded so far indicated no difficulties on that score.

Among the other aerosol products Mr. Weitz suggested might utilize the resin were Christmas snows, hair coloring, and certain cosmetics. By charts illustrated the film tack for the material at different humidities in terms of the Sward Rocker Hardness.

The importance of the closed, open, prophetic, and repeated, insult patch tests in evaluating cosmetic products was discussed in a paper by Joseph V. Klauder, consulting dermotologist from Philadelphia. The purposes of the patch test he listed as: (1) to determine the range of concentration of a given substance that exerts (under the test conditions) a primary irritant action; (2) to determine if the skin is allergic to the tested substance; (3) to determine if a given substance has allergenic action sufficient under the test conditions to sensitize the skin by several or repeated applications; (4) to determine other untoward cutaneous reactions.

A major factor in such tests, Mr. Klauder emphasized, is the possibility of severity of reaction in 1 of 10,000 cases. Stern tests of cutaneous reaction should, he said, bring out this tendency toward severe reaction, even if on a small scale. He cautioned against such variables as dry skin, winter skin, chaffing, and skin fatigue, as being factors that could markedly change the final result of the test.

A general discussion of "New Trends in Cosmetic Testing" was the subject of a paper by Louis C. Barail, consulting biochemist-toxicologist, New York. A brief description of new analytical methods used on various types of cosmetics, new research processes made with up-to-date instruments, and the help given by the research done in associated fields, was described briefly.★

TGA

THE incorporation of panthenol in aerosol hair sprays, antiperspirants, and similar products may impart therapeutic properties to the product far above those intended by the formulator, suggested S. H. Rubin, L. Magid and J. Scheiner of Hoffman-La Roche, Inc., Nutley, N. J. in a paper given before the Scientific Section of the Toilet Goods Association as that group met in New York on Dec. 1.

Panthenol, the alcohol analog of pantothenic acid, in amounts even as small as 1% in aerosol hair sprays can add luster and may go far toward overcoming the hazards of use of resins in the product, it was pointed out. Mr. Rubin, who delivered the paper, said there is ample documentary and clinical evidence available of the healing abilities of panthenol for skin ulcerations, burns, dermatosis, and minor cuts and scratches often associated with shaving.

In experimental animals, he reported, one of the main defects of a deficiency of pantothenic acid is the development of lesions of the skin or hair. Ample evidence is available to demonstrate the conversion of panthenol to pantothenic acid after topical applications. He said it can be incorporated into standard formulations with no other adjustments other than maintaining the pH conditions for the optimum stability of the vitamin compound.

Another material which might be considered for addition to cosmetics is methionine, reported Drs. H. J. Prebluda, of U.S. Industrial Chemicals Co., and Irwin I. Lubowe, of Metropolitan Hospital, New York. They reported that radioactive tracer studies have demonstrated that the absorption of methionine through the skin suggests greater usefulness of topical approaches for therapy. They pointed out that the material is useful in treatment of such varied maladies as peptic ulcer, disturbed emotional behavior, and even

(*Continued on Page* 59)

New Aerosol Survey Reveals Gains in Consumer Knowledge of Products

THE aerosol package is becoming better known to the average consumer, but the industry must work to overcome consumer resistance built up as a result of faulty packages. These facts were revealed in an interview survey conducted during the aerosol demonstration at the Rickel Housewares-hardware supermart at Succasunna, N. J. (*Aerosol Age*, Nov., p. 23) and reported to the CSMA meeting by Norman Odell, of Norman Odell Associates, New York. Mr. Odell's agency both administered the aerosol demonstration (which was sponsored by the CSMA's Aerosol Division) and conducted the interview survey.

The interview took in 153 shoppers during the course of the demonstrations. The surprisingly large percentage of 97% of all the interviewees said they had bought an aerosol product at some time, and 94% said they regularly buy aerosol products.

As was expected, among the 36 aerosol products mentioned as regularly bought by these repeat purchasers, the eight most often mentioned (in order) were: room deodorants, shaving cream, paint, window cleaner, furniture polish, hair spray, and whipped cream. The most often mentioned reasons for liking aerosol products were: "convenience, no mess, economy." This last was a surprise since the aerosol industry admits that its product is usually *less* economical than its non-aerosol counterpart.

Of the 146 persons who gave affirmative answers to the question "Have you ever bought or used an aerosol product you didn't like?", the largest percentage mentioned whipped cream and paints. Whipped cream was cited for poor flavor or for the fact that it didn't dispense properly. The complaint against paints was that they were too expensive and that the user couldn't sufficiently control the spray. Insecticides were also mentioned because they didn't kill insects, and because of valve clogging. The latter shortcoming was also cited for dust spray, toothpaste, shoe polish, room deodorant, and snow.

The interviewees were also asked whether or not there were some particular product they would like to see packaged in aerosol form. 54 women mentioned 34 different products, 17

(*Continued on Page* 57)

View of audience during Rickel demonstrations.

Demonstrations Up Sales

PRODUCT demonstrations by special or regular store personnel are a sure-fire way of increasing aerosol sales. This point was graphically demonstrated during the "Aerosol Fair," four days of demonstrations at the Rickel housewares-hardware supermart at Succasunna, N. J. at the end of October.

Use of a trained demonstrator in the Succasunna store raised aerosol unit sales from an average of about eight per day to 73! One out of every nine persons who purchased anything at the store during the four days purchased one or more aerosol products. This compares with one out of 26 and one out of 16 at two other Rickel stores where there was aerosol advertising, but no demonstrations. Aerosol dollar sales amounted to approximately 3%

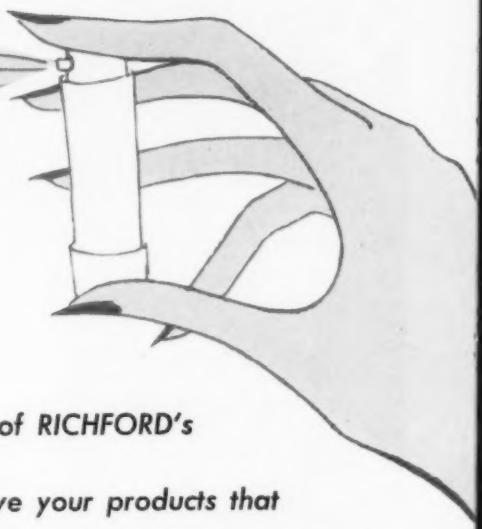
(*Continued on Page* 56)

Your Product Deserves Richford's

TOUCH-N-SPRAY

REGISTERED

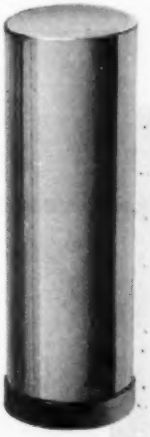
purse size aerosols



the beauty and elegance of RICHFORD's aerosol containers give your products that eye-catching "plus value" to insure retail sales.

STYLE #1

Wide choice of color and color combinations in refillable plastic containers. Available in 2 styles of spray heads with brass shell in polished or design background.



Write now for samples and prices

STYLE #2—AERO-MESH

New LOW . . . LOW priced quality brass container with plastic basket weave protector.

- Wide choice of colors
- Foolproof—cannot spray accidentally!
- Ready to use—nothing to remove
- Refillable container

You'll be amazed at the price!!

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3618 Oceanside Rd.
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SHOWROOMS
Empire State Bldg.
350 5th Ave., N. Y., N. Y.

Sales offices in all major cities throughout the world

Tauentzien, believed to be the first aerosol cologne propelled by carbon dioxide, has just been introduced by Otto Muller GmbH, Berlin, Germany. Valve is a "Micro-Mist" mechanical break-up unit manufactured by Solfrene Srl, Italian licensee of Risdon. System was developed by Professor Otto Haase of Muller.

NEW PRODUCTS AND PACKAGES

Regatta marine enamels are now available in 16-ounce aerosol cans. Marketed by Baltimore Copper Paint Co., Baltimore, line comes in ten colors, including aluminum.

Newest aerosol starch is **Sta-Crisp,** a permanent type of liquid resin-base starch distributed by the Chemical Products Division of T. M. Products, Chicago. Product in 15-ounce container is claimed to "cling to fabrics even after repeated washings."

Faymus, a type and platen cleaner for use on typewriters, adding machines, and other office machines, has been introduced by Bankers & Merchants, Inc., Chicago. Six-ounce container sells for $1.29.

SOLUBILITY TESTS
CORROSION CHECKS
Your Perfumed AEROSOL Requires
. . . all this and more before it is ready for market. Shampoos, shave creams, hand lotions, colognes, Xmas snow, insecticides, room sprays, personal deodorants, industrial products . . . whatever the item exhaustive pre-production checks are essential to its long-term success. In the D&O Aerosol Testing Laboratory all of this work is done for the manufacturer readying a new aerosol product for the market. Each test is conducted by an experienced aerosol technician and highly skilled perfumers check odor stability every step of the way. This service is available to you...
Consult D&O
Our 161st Year of Service
PRESSURE FILLING
SHELF-LIFE TESTING IN CORROSION BOX
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WATER-BATH LEAKAGE TESTS
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ESTABLISHED 1798
Essentially for You
DODGE & OLCOTT, INC.
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ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • FLAVOR BASES • DRY SOLUBLE SEASONINGS

AEROSOLS in review

In this column important aerosol subjects appearing in other periodicals (both domestic and foreign) will be reviewed and summarized. It is felt that this service will enable the reader to keep abreast of most of the significant contemporary articles on the industry, even though they may appear in other periodicals. Since there is a chance that some pertinent articles may be overlooked, it will be helpful if readers will call our attention to any they judge important enough to review.—*The Editor.*

Reaction Mixed to Pre-pricing of Products

THE pros and the cons of pre-pricing is the subject of "the Sounding Board" in the December issue of *Modern Packaging*. Among the arguments *for* pre-pricing by the packager, L. Bowden deForest, of the American Rack Merchandisers Institute, and Frank N. Carpenter, vice-president of Shulton, suggest it eliminates extra handling and time delays at the merchandising level.

Among the difficulties cited are varying retail prices caused by differing shipping costs for different areas of the country, state and city sales taxes, and price color codes used by supermarkets.

Mr. Carpenter suggests that "Pre-pricing eliminates pencil or ink smudges, crayon prints, and, many times, unattractive stickers — all of which, necessarily applied hastily by the markets, most often deface the artistry and beauty of the package on which so many man-hours and millions of dollars have been spent. And, too, pre-pricing tends to eliminate price undercutting.

"We at Shulton are experimenting in an effort to develop the best approach to the subject with a new item in the Old Spice men's line, which requires no Federal tax. The chief problem for the manufacturer in pre-pricing a package is anticipating what will happen to the package in areas where state and city taxes are levied. A certain amount of handling by the local merchant is made mandatory by such local taxes. Defacing of the package in these instances may be alleviated to some degree by the manufacturer, who provides a specific spot for price marking as part of his package design, in an area where it can be readily seen without spoiling the appearance of the package."

Irving Feldman, president of Zelart Drug Co., Westbury, L. I., declares emphatically that the merchandiser prefers to price mark his own way. "We are not in favor of having manufacturers pre-price products because, in the sale of toilet articles in supermarkets, the store owner or manager wants his merchandise marked in the same pattern as all other merchandise in the store." Contending that tax structures vary from city to county to state, Mr. Feldman points out that the marking of a price "plus tax" is no valid solution because there may be a *number* of taxes and this would confuse the check-out girl.

"I say to manufacturers: Give us the price spot in the proper place and we'll do the whole price-marking job. Pack goods so that when we open the cases, the price spots are right-side up. Give us smooth, not embossed surfaces, so we can stamp the price clearly. Use white or pastel colors. They show price marks best."

•

A SPECIAL issue devoted entirely to aerosols, the October issue of *Parfumerie, Cosmetique, Savons* contains all the technical papers delivered at the first meeting of the Federation of European Aerosol Associations held in June in Paris. Included are papers by P. H. Witjens, J. H. Briston, M. Pette, E. F. Etienne, M. Tangermann, W. Lessenich, M. Kubler, L. W. Haase, W. G. Delmore, and G. L. Piper. Of this list the papers of Messrs. Haase, Tangermann, and Witjens have all appeared in *Aerosol Age* during the latter half of last year.

Since the articles are all in French, their value to the U. S. reader might be minimal. However, one valuable part of the special issue is several pages of excellent photographs of newer French aerosol packages. The reader will be impressed by French innovations in packaging, particularly in the cosmetic field.

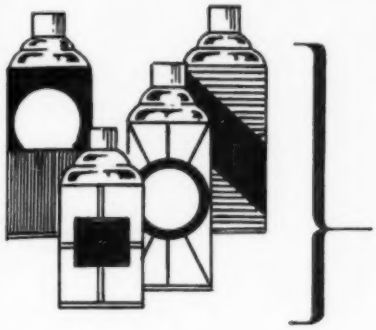
•

THERE are no patents on Tropicana's new aerosol orange concentrate, and other citrus firms could logically produce it if it should win favor among consumers, declares the Nov. 9 issue of *Advertising Age*.

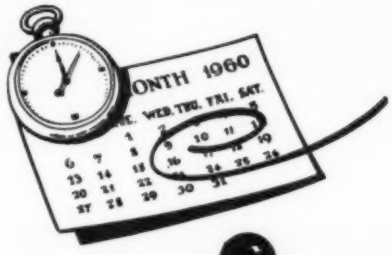
"Called Tropicana instant orange concentrated drink, the new product was introduced in midsummer and now can be bought in about half the states. The developer and producer, Tropicana Products of Bradenton, expects it to be competitive with Tang and other synthetic drinks, rather than with pure orange juice. The new product has a base of orange concentrate, with about 40% of its solids (natural sugars) derived from this source. Other ingredients are sugar, citric acid, sodium citrate, vitamin

(*Continued on Page* 59)

EVERYTHING IN AEROSOL FILLING



what YOU want



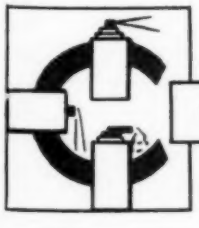
when YOU want it

where YOU need it

from

CONTINENTAL FILLING CORPORATION

● Continental Filling Corporation has continually kept ahead of the pressure packaging field, since its inception. New methods, new equipment, new ideas are continually being incorporated into Continental Filling's facilities. That is why Continental Filling's customers get what they want, when they want it, and where they want it. Call on Continental Filling's Technical Service Department . . . it's available to all, without obligation, at any time.



CONTINENTAL FILLING CORPORATION

Danville, Illinois

ANOTHER FAMOUS 40&8

THE NEW KLM DC-8 JET CARGO SERVICE. The original "40&8" was a French boxcar during World War I. The boys in the A.E.F. knew it as their Pullman to the front. After that ride, it was all on foot, through the mud to the trenches. The "40&8" took its name from the load capacity stencilled on its side . . . 40 Hommes & 8 Chevaux . . . 40 Men & 8 Horses. It was and is the most famous boxcar in history. But now, KLM whose own history dates from World War I, introduces another "40&8," destined to be just as famous in its own right. On its 40th Anniversary, KLM introduces its new **DC-8** Jet Cargo Service, soon ready to carry your products to the selling fronts the world over. It will deliver your shipments in a few hours or overnight to any market on the globe. It will reduce your inventory and handling costs, open up vast marketing areas to increase your profits. For more information on the new KLM "40&8," contact your freight forwarder, cargo agent or KLM, 609 Fifth Avenue, New York 17, N. Y. — PLaza 9-2400.

THE WORLD OVER
KLM
ROYAL DUTCH AIRLINES
THE WORLD'S FIRST AIRLINE

NEWS of Pressure Packaging

Jean Baer Joins SpraPak

Jean W. Baer, aerosol consultant and former Eastern sales representative for Pennsalt aerosol propellants, has been

Jean W. Baer

appointed managing and technical director of SpraPak Chemicals, Inc., new aerosol packaging company at 260 Meserole Street, Brooklyn 6, N. Y. The company, which took over the equipment and accounts of Redram Chemical Co., will operate as a custom filler of a wide range of products.

Previous to serving three years with Pennsalt, Mr. Baer held technical sales positions with George Lueders, Inc. and van Ameringen-Haebler.

•

FEA to Meet in Dusseldorf

The Interessen-Gemeinschaft Aerosole (I.G.A.), also known as the German Aerosol Group, last month announced plans to play host to the 1960 meeting of the Federation of European Aerosol Associations during Interpack, international packaging exposition scheduled for April 20-27 in Dusseldorf.

The IGA reported that the executive board of the Dusseldorf Fair agreed to "shelter" the second aerosol congress.

•

Pace Names Chief Chemist

Pace, Inc., Wilmington, Del., private label and contract aerosol packers, has announced the appointment of Maurice H. Unthank as chief chemist.

A graduate of North Carolina State and Temple University, Mr. Unthank formerly headed the Ozone research pilot plant of the Welsbach Corp., was a quality control chemist for the City of Philadelphia, a formulation chemist for the Vita-Mix Corp., and a cosmetic chemist with Delaware Valley Laboratories. As captain in the 2nd Army, Middle Atlantic Air Defense Command, he was a chemical officer overseeing chemical warfare units.

•

Kartridg-Pak Names 2

The Kartridg-Pak Co., Franklin Park, Ill., last month announced the appointment of two new sales and service representatives in the Atlantic Coast regions. This brings to five the total number of Kartridg-Pak field represenatives covering the country exclusively on aerosol equipment.

George McAteer, for eight years Eastern representative with the com-

Jecker

McAteer

pany's Davenport, Iowa division, has been named Eastern sales and service representative covering New York, New England, Central, and Eastern Canada. He is a native of Toronto, Ont. and at present resides at 817 Brighton Road, Haddenfield, N. J.

At the same time, Jack Jecker, formerly Eastern service representative, has been named Southeastern sales and service representative. Mr. Jecker, who has been with the Kartridg-Pak Co. and Mojonnier Associates for seven years, lives at 14 North Third Street, Harrison, N. J.

Both men will work out of the company's New York office at 475 Fifth Avenue, New York.

McKernan Co. Names Stinson

The E. J. McKernan Co. of Elgin, Ill., has appointed Warren M. Stinson as office manager and sales correspond-

Warren M. Stinson

ent. In this capacity, he will handle all the office details in connection with the sale of Seaquist aerosol valves and West Penn metal aerosol caps and closures.

Mr. Stinson is a virtual newcomer to the aerosol field, having formerly been associated with the manufacture of machined parts and timing devices in Illinois and California.

•

FDA Warns on Additives Bill

The Food and Drug Administration last month issued a warning that March 6 is the deadline for submitting clearance petitions under the provisions of the food additives amendment. The FDA said it would take "a hard line" on requests for extensions beyond the March 6 deadline. Revealing that only 55 petitions for clearance of food additives have so far been received — only 19 with sufficient data to warrant a formal filing — the FDA noted that about 1000 additives are currently used in food processing.

Arthur S. Flemming, Secretary of Health, Education, and Welfare, noted that the law provides that he may grant an additional 12 months for final clearance on additives where the extra time "involves no undue risk to the public health and conditions exist which necessitate the prescribing of such an additional period."

"Outer Seven" Agreement Sets Up New Trade Bloc

U. S. aerosol valve exporters and marketers of aerosol products in Europe last month were closely watching developments in Europe in the wake of formation of the so-called "Outer Seven," a trade bloc consisting of Britain, Sweden, Norway, Denmark, Austria, Switzerland, and Portugal. Official name for the new trade alliance, which is aimed at offsetting the European Common Market is the "European Free Trade Association."

In an agreement signed in Stockholm on Nov. 20, the signatory countries agreed to work toward gradual mutual freedom of trade (to be achieved by 1970), to economic integration and "harmonization" of wages, social benefits, and other production cost factors. Member nations will retain their national tariff systems toward the exports of nonmembers, while member nations of the rival trade bloc, the European Common Market — or the "Inner Six"—will establish a common tariff for this purpose. The "Inner Six" includes France, West Germany, Italy, Belgium, the Netherlands, and Luxembourg, of which the first three are all considered to be among the leading European countries in aerosol production. Of the "Outer Seven," Britain, Switzerland, and Sweden are considered important aerosol producers.

Two of the major U. S. aerosol valve producers, Precision and Risdon, already have either subsidiaries or licensees in major countries in both blocs. Such other producers as Aerosol Research, Newman-Green Emson, and VCA either have already set up licensees, or are contemplating doing so. The major can producers all send quantities of containers overseas, mostly to the "Outer Seven" countries in Scandinavia.

Aerosol filling machinery export is another category that may be curbed by an increase in European import duties, since the U. S. has hitherto been the primary supplier of such equipment to the world aerosol industry. The growth of filling equipment manufacture in Switzerland, Germany, Great Britain, Italy, and France could result in a decrease in machinery imports from the U. S. Small amounts of propellants are still sent overseas by the four major U. S. suppliers, DuPont, General Chemical, Pennsalt, and Union Carbide.

The two trade blocs are expected to pose special problems for countries marketing finished aerosol products in Europe. The larger marketers: Shulton, Revlon, Avon, Nestle-LeMur, Boyle-Midway, all either have the facilities for setting up (or have already set up) subsidiaries in major countries in both blocs. But a major problem exists for companies without the financial resources to shift from direct export to branch operation.

The original plan had called for formation of a single free-trading area incorporating one "common" market. Failure to approve this arrangement by Great Britain and the Outer Seven countries — because of individual fears of loss of governmental sovereignty, economic interests, or general national policies—is the prime reason for formation of two separate groups. One of the stated goals of the "Outer Seven" group is to exert pressure on the "Inner Six" to accede to formation of a wider association beneficial to both.★

IFF Names Trip VP

As a further step in the development of its international operations, International Flavors and Fragrances, Inc., New York, has named F. H. P. Trip a vice president of the company and deputy manager of the European area, which includes England, the Continent, Africa and parts of Asia. He will be responsible for the production and distribution of flavor and fragrance materials within this area where the company operates eleven manufacturing and distribution units. He will make his headquarters in Zaandam, Holland.

Mr. Trip served in various executive capacities with the Polak & Schwarz organization, and most recently was managing director of the company's flavor division, prior to its merger with van Ameringen-Haebler a year ago.

•

Stanley Elevates Templeton

Donald J. Templeton has been named technical advisor and consultant for Stanley Home Products, Inc., Westfield, Mass. In his new position he will advise and assist sales, marketing, and merchandising departments in special assignments.

Joining the company in 1945, he was advanced to chemical research manager in 1949 and became supervisor of chemical production in 1951.

•

Babbitt Names Golub

B. T. Babbitt, Inc., New York, has elected Paul Golub, former manager of chain store sales, to be vice-president of chain store sales. Prior to joining Babbitt last year, he was president of Housewares Distributors, Boston.

•

"Max" Product Wins Award

The "Max" line of aerosol products, marketed by Mondart, Ltd., London, has been selected as the outstanding design for insecticide and air freshener packagers at the "Pick of the Packs" contest held recently at the Design Centre in London. Arranged by the council of Industrial Design, in cooperation with the Packaging Group of the Society of Industrial Artists, the display was the first of its kind to be held at the Design Centre. The 50 exhibits were chosen from among 650 designs submitted to the packaging industry and the advertising profession.

The "Max" product line consists of two fly killers, a moth proofer, and an air freshener. It was designed for Mondart by W. J. Southcombe Advertising Agency Ltd. The package was cited for its simplicity in wording and general label treatment, and for the fact that each product bears a distinctively colored stacker cap.

•

Sauers to Lanolin Plus

The L. P. Laboratories Division of Lanolin Plus, Chicago, last month named Les. Sauers to the position of division president. He has been vice-president of the parent company.

Michael Coppola Dies at 55

Michael J. Coppola, 55, New York sales representative for the "Freon" Products Division of the DuPont Company, died of a heart attack on

Mike Coppola (photographed the day before his death)

Dec. 8 while attending the 46th annual meeting of the Chemical Specialties Manufacturers Association in Washington.

A native of New York City, Mr. Coppola attended LaSalle Academy there before joining the Monsanto Chemical Co. as a clerk in 1917 at the age of 13. Two years later, he began his 40-year career with DuPont in an indirect way as an employe of Rhodia Chemical Co., New York City aromatics firm. The latter firm was acquired in 1929 by the Newport Chemical Co., which in 1931 was purchased by DuPont and integrated into its Organic Chemicals Department.

At Newport Chemical, Mr. Coppola was a photographic chemicals salesman, a field he served until 1942 when he was assigned to aromatic sales for DuPont's Dyes and Chemicals Division in New York City. Since 1953, when DuPont disposed of its aromatics business, he had been a sales representative for the company's "Freon" Products Division, serving principally aerosol accounts in the New York City area.

Mr. Coppola is survived by his widow, the former Michelina Beniamino, of 157-60 27th Ave., Flushing, L. I., N. Y., and two daughters.

•

"Air-Wick" Wins Paris Award

A poly styrene high-relief counter display for "Air-Wick", aerosol room deodorant, was awarded one of the "Oscars" in the recent 1959 Packaging and Point of Sale Advertising Exhibition in Paris, France. The award was given for best point-of-sale advertising display, was one of 16 given to the 450 exhibitors at the show. The exhibition, which included displays from most of the European Common Market countries, drew a total of over 180,000 visitors.

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St. John's Aerosol Seminar

A seminar in aerosol technology will be held on the Jamaica campus of St. John's University College of Pharmacy, Brooklyn, early this spring. A series of six two-hour sessions will be held 7 to 9 p.m. on consecutive Thursday evenings beginning March 24 and continuing until May 5, omitting the session on Thursday, April 14.

The program is being arranged by Dr. John J. Sciarra, associate professor of pharmaceutical chemistry at St. John's and Dr. Francis A. Mina, technical director of Lodes Aerosol Consultants, Inc., New York. Lectures will cover all phases of aerosol technology, and are intended mainly for those who want to gain something more than just a basic knowledge of the subject.

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Walker to Fuller Products

William Walker, for six years research director of Continental Filling Co., Danville, Ill., has left that company to become coordinator of manufacturing and research of Fuller Products Co., Chicago, cosmetic manufacturer. While at Continental, Mr. Walker was very active in CSMA committee work. He was a member of the Scientific Committee, the Glass Container Subcommittee, and the Insecticide Standards Methods Subcommittee.

•

Plasti-Kote to Britain

The complete line of Plasti-Kote aerosol paints, including hammer and stain and other special effect products, was recently introduced in Great Britain by the company's English subsidiary, Plasti-Kote, Ltd., Silbury Street, London, N.1. The products will retail at the British equivalent of $2.24 (16 shillings).

Major French Co.'s Agree

With a view toward creating a more competitive entry in the European Common Market, two of the largest French chemical companies, Péchiney and Saint-Gobain, recently reached an agreement to form a new, equally owned enterprise grouping together their activities in the chemical field. The new concern will market the chemical products of the parent companies, and will coordinate their production and research and development programs.

Péchiney and Saint Gobain are both primary producers of fluorinated hydrocarbon aerosol propellants and a number of other materials used in aerosol production. Péchiney is also a major producer of aluminum, electrometallurgical products, and chemicals. Saint-Gobain produces glass, paper, and miscellaneous chemicals.

•

ACS Group Elects Theimer

Dr. Ernst T. Theimer was selected chairman-elect of the North Jersey Section of the American Chemical Society at its recent election. Dr. Theimer is director of research of the Union Beach, N. J. research laboratories of International Flavors & Fragrances, Inc., New York.

•

Aerosols Subject at School

Aerosol packages were classed among "common fire hazards found in home and industry" in the Milwaukee Fire Prevention and Plant Protection School held in that city in November. J. A. Doherty, supervisor of fire prevention of the Falk Corp., one of the school's lecturers, demonstrated how an exploding aerosol container can become a "dangerous weapon in the hands of an unsuspecting child or adult." He exploded one on stage and demonstrated a disposal method using a common beer can opener.

Approximately 2,500 employees of various Milwaukee industrial firms attended the 36th annual session of the school, which is reported to be the oldest and largest fire prevention school in the U.S.

FDA Issues New List of Safe Food Additives

THE Food and Drug Administration recently issued the following list of 182 chemicals which have been found safe for use in food products. Chemicals on the list are not subject to the food additives amendment to the Food, Drug, and Cosmetic Act, and can be used in aerosol products without obtaining prior approval of the FDA.

CHEMICAL PRESERVATIVES

Ascorbic acid
Ascorbyl palmitate
Calcium ascorbate
Calcium propionate
Erythorbic acid
Potassium sorbate
Propionic acid
Sodium ascorbate
Sodium propionate
Sorbic acid
Tocopherols

BUFFERS & NEUTRALIZING AGENTS

Acetic acid
Aluminum ammonium sulfate
Aluminum sodium sulfate
Aluminum potassium sulfate
Ammonium bicarbonate
Ammonium carbonate
Ammonium hydroxide
Ammonium phosphate (mono- and dibasic-)
Calcium carbonate
Calcium chloride
Calcium citrate
Calcium gluconate
Calcium hydroxide
Calcium lactate
Calcium oxide
Calcium phosphate
Citric acid
Lactic acid
Magnesium carbonate
Magnesium oxide
Potassium acid tartrate
Potassium bicarbonate
Potassium carbonate
Potassium citrate
Potassium hydroxide
Sodium acetate
Sodium acid pyrophosphate
Sodium aluminum phosphate
Sodium bicarbonate
Sodium carbonate
Sodium citrate
Sodium hydroxide
Sodium phosphate
Sodium phosphate (mono-, di-, tri-)
Sodium potassium tartrate
Sodium sesquicarbonate
Sulfuric acid
Tartaric acid

EMULSIFYING AGENTS

Diacetyl tartaric acid esters of mono- and diglycerides from the glycerolysis of edible fats or oils
Mono- and diglycerides from the glycerolysis of edible fats or oils
Monosodium phosphate derivatives of mono- and diglycerides from the glycerolysis of edible fats or oils
Propylene glycol

MISCELLANEOUS

Acetic acid
Aluminum sodium sulfate
Aluminum sulfate
Butane
Calcium phosphate, tribasic
Caramel
Carbon dioxide
Carnauba wax
Citric acid
Glycerin
Glycerol monostearate
Helium
Magnesium carbonate
Magnesium hydroxide
Nitrogen
Papain
Phosphoric acid
Propane
Propylene glycol
Triacetin (glyceryl triacetate)
Tricalcium phosphate
Sodium carbonate
Sodium phosphate
Sodium tripolyphosphate

NONNUTRITIVE SWEETENERS

Calcium cyclohexyl sulfamate
Calcium saccharin
Saccharin } Sodium cyclohexyl sulfamate
Sodium saccharin

NUTRIENTS

Ascorbic acid
Calcium carbonate
Calcium oxide
Calcium pantothenate
Calcium phosphate (mono-, di-, tribasic)
Calcium sulfate
Carotene
Ferric phosphate
Ferric pyrophosphate
Ferric sodium pyrophosphate
Ferrous sulfate
Iron, reduced
L-Lysine monohydrochloride
Niacin
Niacinamide
D-Pantothenyl alcohol
Potassium chloride
Pyridoxine hydrochloride
Riboflavin
Riboflavin-5-phosphate
Sodium pantothenate
Sodium phosphate (mono-, di-, tribasic)
Thiamine hydrochloride
Thiamine mononitrate
α-Tocopherol acetate
Vitamin A
Vitamin A acetate
Vitamin A palmitate
Vitamin B_{12}
Vitamin D_2
Vitamin D_3

SEQUESTRANTS

Calcium acetate
Calcium chloride
Calcium citrate
Calcium diacetate
Calcium gluconate
Calcium hexametaphosphate
Calcium phytate
Citric acid
Dipotassium phosphate
Disodium phosphate
Monocalcium acid phosphate
Monoisopropyl citrate
Potassium citrate
Sodium acid phosphate
Sodium citrate
Sodium diacetate
Sodium gluconate
Sodium hexametaphosphate
Somium metaphosphate
Sodium phosphate (mono-, di-, tribasic-)
Sodium potassium tartrate
Sodium pyrophosphate
Sodium tartrate
Sodium tetrapyrophosphate
Sodium tripolyphosphate
Tartaric acid

STABILIZERS

Agar-agar
Carob bean gum (locust bean gum)
Carrageenin
Guar gum

•

Geigy Names 2 in Sales

Geigy Agricultural Chemicals Division of Geigy Chemical Corp., Yonkers, N. Y., last month announced two appointments to its sales staff. Robert E. Holland joined the southern sales staff and will represent Geigy in South Florida. M. A. Priola will serve as the company's sales representative in Nebraska.

Mr. Holland holds bachelor of science and master of agriculture degrees from the University of Florida, and has done laboratory research on citrus fruit insects and on pesticide residues at the Citrus Experiment Station, Lake Alfred, Fla. He also served as a pest control operator in the Department of Entomology at the University of Florida.

Mr. Priola holds the degrees of bachelor of science (in horticulture) and master of science from Colorado State University. Prior to joining Geigy, he was a technical sales representative for Shell Chemical Corp.

•

Givaudan's Eckton Visits U. S.

R. E. Eckton, technical service manager of Givaudan and Co., Ltd., Whyteleafe, Surrey, England, has just completed a three-week visit to the U. S. During his stay he toured the Givaudan facilities and studied market conditions in America. He reviewed, with the Givaudan research and perfume staffs, new aromatic chemical and perfume oil developments and their application in the British market. The continued closer coordination between the research, production and marketing staffs of the Givaudan organizations in the two countries was one of the major objectives of Mr. Eckton's visit.

Onyx Names Midwest Mgr.

Ralph O. McGraw, Jr., has been appointed district manager for the Midwest territory of the Onyx Oil &

Ralph O. McGraw, Jr.

Chemical Co., Jersey City, N. J. He will be in charge of Onyx's sales and service office at 140 North Dearborn Street, Chicago 2, Ill.

For the past five years, Mr. McGraw has been sales representative in Indiana, Illinois, and Wisconsin.

•

ConCan Appoints Two

Forest A. Lay has been appointed sales manager for general line food cans in the Central Metal Division of Continental Can Co., Chicago. He replaces Paul L. Brachle who resigned from the company.

Prior to assuming this new position, Mr. Lay was Minneapolis district sales manager. He had started with the company as a sales trainee in 1947. Succeeding Mr. Lay as district sales manager for metal cans in Minneapolis is M. W. Owings, formerly a sales representative in the Milwaukee area.

•

L&F Division Moves to Toledo

The Professional Division of Lehn & Fink Products Corp., New York, has moved its management and administrative staff from New York to 4934 Lewis Ave., Toledo, O. Manufacturing, research and technical research facilities will continue operations at the main plant at Bloomfield, N. J., and in Lincoln, Ill.

The Professional Division will thus be able to coordinate its activities with National Laboratories, a Lehn & Fink subsidiary operating from Toledo.

•

Irish Form Packaging Group

A Packaging Institute has been formed in Ireland to act as an information center and help achieve standardization of packages, packing materials, pallets, and shipping containers. Headed by C. Ben McConnell, chairman, the Institute will maintain headquarters in Dublin. Among its functions will be the formation of an advisory committee to assist members and the publication of bulletins to keep members abreast of packaging developments both within Ireland and abroad.

•

Revlon in Fair Trade Test

Revlon, Inc., New York, leading aerosol marketer, last month brought suit in the Mahoning County Court, Youngstown, O., against Discount & Beauty Aids, charging violation of Ohio's new fair trade law. Just after announcement of the suit, another company, Youngstown Vitamin & Cosmetic Distributors, Inc., asked the court to be named a co-defendant, charging that Discount & Beauty Aids is too closely allied with Gray Drug Stores, a fair trade supporter, to "vigorously defend the litigation."

The brief filed by Youngstown Vitamin charges that the defendant has a statutory agent who is an officer of Gray, that its place of business was formerly occupied by a Gray store, and that Discount & Beauty Aids was incorporated by two attorneys and an employee of a law firm which is legal counsel for Gray. Youngstown expressed fears that the suit may be designed to obtain a decision sustaining the constitutionality of the law.

•

Coty Names E. Holloway

Coty, Inc., New York, has named Elizabeth Holloway, formerly of Revlon, to be new product manager of its Marketing Division.

•

Albert Verley Appoints Two

Albert Verley & Co., Linden, N. J., processors of essential oils and aromatic chemicals, last month appointed Abraham Seldner as director of its special services department and named George Silver to its sales staff. Mr. Seldner will assist customers in the formulation of cosmetics, aerosols, and household specialties. Mr. Silver, formerly of Polak & Schwarz, will service the metropolitan New York area, New Jersey, and Pennsylvania.

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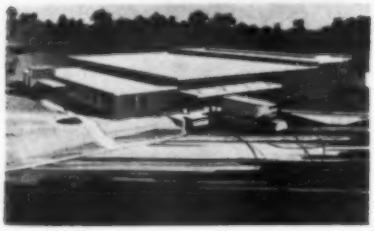
Pennsalt Plans Atlanta Site



Pennsalt Chemicals Corp., Philadelphia, last month announced plans for a $500,000 blending, packaging, and warehousing plant at Atlanta, Ga. Scheduled to be completed early this year, the plant will be constructed on a ten-acre site served by both a rail spur and express highway.

A modern, one-story structure, it will provide warehousing facilities for the company's "Isotron" propellants and refrigerants. In announcing the facility, Pennsalt president William P. Drake said, "We have found we can give better service to our specialty customers through establishment of strategically located production units in major market areas. In addition, the new unit gives us added capacity to meet the growing demand in the South for our specialized products."

•

ConCan Appoints Master

Hazen P. Master has been named Baltimore district sales manager for the Metal Division of Continental Can Co. He had previously been an assistant products sales manager for non-food cans in the company's New York office, and before that was a sales representative in Syracuse.

He replaces W. H. Palmer who is being reassigned to other duties in the company's Eastern Metal Division.

•

U. S. I. Names John Putnam

John A. Putnam has been appointed manager of the Atlanta sales office of U.S. Industrial Chemicals Co., Division of National Distillers and Chemical Corp., New York. He has been a salesman operating out of the U.S.I. New Orleans Sales Division since 1952, and was located in Atlanta for the past two years.

Mintzer Joins Aerosol Techniques

The first graduate student to wo in the Columbia University College of Pharmacy aerosol research laboratory which was constructed through a grant from Aerosol Techniques, Inc., is now a research chemist at ATI's laboratories in Bridgeport. He is Harvey Mintzer, who has joined Aerosol Techniques following completion of studies leading to his Master of Science degree at Columbia.

Working under the direction of Professor Joseph L. Kanig, Mr. Mintzer devoted most of his time in the new Columbia aerosol laboratory to the development of pharmaceutical pressurized dosage forms for inhalation and topical use. He is a member of the American Association for the Advancement of Science and the American Pharmaceutical Association.

•

Pharmacists Group Elects

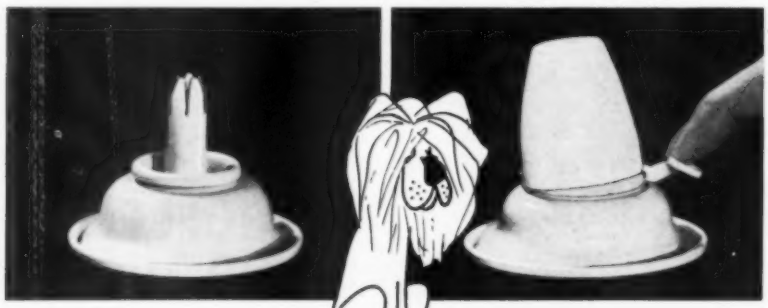
Charles B. McDermott of Winthrop Laboratories, New York, has been elected 1960 president of the Society of Pharmacists in Industry as that group held an election meeting on Nov. 18. Other officers elected for 1960 include: first vice president, Walter G. Fredell, (Warner-Lambert Research Institute); second vice-president, Maurice L. Rosenthal (Robeco Chemicals, Inc.); recording secretary, Gerald Siel (Warner-Lambert Research Institute); corresponding secretary, Vincent DeFeo (Dodge & Olcott, Inc.); and treasurer, Harry B. Bernstein (E. R. Squibb & Sons).

Featured speaker at the Nov. 18 meeting was Louis E. Kazen, editor of *Drug Trade News*, and a member of the society.

•

Roure-Dupont Plant in India

A new essential oils plant has been established at Sewri, India by Industrial Perfumes (Private) Ltd., Bombay, a company jointly owned by the Ets. Roure-Bertrand Fils & Justin Dupont (parent company of Roure-Dupont, Inc., New York) and Tata Oil Mills Co., Ltd. The plant is part of a general expansion of Roure-Dupont facilities throughout the world.



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DuPont Readies Freon C318

Pending expected early approval by the Food and Drug Administration, E. I. du Pont de Nemours & Co., Wilmington, last month announced start-up of new production facilities to make its new food propellant "Freon C318" available in commercial quantities sometime early this year.

Marketing plans, after FDA approval under the Food Additives Amendment, include both pure "Freon C318" and mixtures of the liquefied hydrocarbon propellant and nitrous oxide. This latter mixture was developed jointly by DuPont and the Ohio Chemical and Surgical Equipment Division of Air Reduction Co. and will be sold by Ohio.

Preliminary aerosol formulations for "Freon C318" and mixtures of "Freon C318" and N_2O are available from the DuPont offices, 2420 Nemours Building, Wilmington 98.

•

Carbide Offers New Coatings

Seven new products for coatings formulation have been introduced by the Union Carbide Plastics Co., Division of Union Carbide Corp., 420 Lexington Ave., New York. The vinyls predominated, with a plastisol primer base for improved adhesion, two vinyl copolymers with high tolerance for aromatic solvents, and a new vinyl acrylic latex with reportedly high water-spot resistance and scrubability. Also available in commercial quantities is a fast filming latex for the production of gloss and semi-gloss coatings and a plastisol blending resin with improved heat stability.

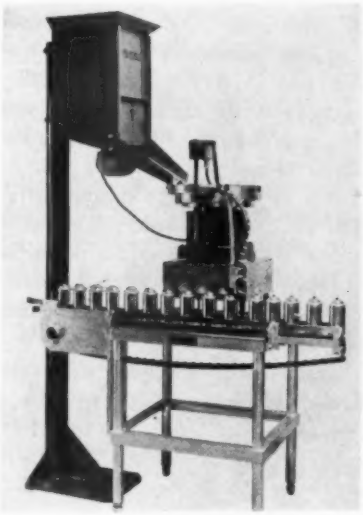
Union Carbide revealed newly developed techniques, utilizing liquid epoxy resins, which are expected to have far-reaching effects in the epoxy coating field.

•

Article on Dip Tubes

An article on "Dip Tubes for Aerosols" is now available from Anchor Plastics Co., 36-36 36th Street, Long Island City 6, N. Y. The article condenses the latest information on dip tubing and illustrates crossections of possible extruded dip tubes and end treatments.

Automatic Valve Inserter



A new automatic valve inserter designed to handle foam-type and other valves without dip tubes has been developed by John R. Nalbach Engineering Co., 6139 W. Ogden Ave., Chicago 50. Operating at capacities of from 50 to 70 valves a minute, the unit can be installed directly on the filling line conveyor.

The unit operates with a *magnetic* valve escapement and has no moving parts, except for the sorter at the top. The valve is released by the container as it positions itself under the adjustable escapement. With hopper, the unit measures approximately seven feet six inches in height, four feet, seven inches in length.

•

Offer New Leak Detector

A non-flammable, non-corrosive liquid which may be used to detect leaks around joints in pressure lines or tanks has been developed by Flamort Chemical Co., 746 Natoma St., San Francisco 3. Called "Detect-A-Leak", the chemical forms large bubbles which remain intact until the danger spot can be marked for repair. It can be used on rubber, plastic, or any type of metal or other material without damage. It comes in eight-ounce containers, one-gallon, and five-gallon cans, and 55-gallon drums.

•

Aerosol Hair Coloring

A new type of color pigment for aerosol hair colorings has been developed by C. Balzi, Culmannstrasse 39, Zurich 6, Switzerland. It is claimed the pigment can be formulated with very small amounts of alcohol, and that the color will not oxidize. Also, the new pigment is said to be extremely durable and, when applied to the hair, withstands several shampoos and has no effect on permanent waves.

The spray pigment has been formulated successfully in the following shades: blue black, brown, light brown, blond, ashblond, light ashblond, golden blond, mahogany, copper, light golden red. Because it requires instructions for use, it is expected to find its major market in beauty shops and other professional outlets, possibly in kits of up to six colors. The formulation was first demonstrated publicly at the International Hairdressers Exhibition held in Zurich late last year.

•

New Multi-Purpose Aerosol

"Just DDI," a new aerosol development reported to be the first combination deodorizer, disinfectant, and insecticide, has been announced by Fuld Bros., Inc., Baltimore. The product is said to destroy most germs, remove odors, and kill flying insects.

New product is non-staining, non-toxic, non-caustic, non-corrosive, and non-flammable when used as directed. Air deodorant ingredient is reported to work by chemical action, rather than masking.

"Just DDI" will be distributed by Fuld's Just Products Division.

Breck Unveils New Package

John H. Breck Inc., Springfield, Mass., has introduced a new ¾-ounce "purse-size" version of its aerosol hair spray, "Breck Hair Set Mist." Suggested retail price for this new size "Breck Hair Set Mist" is 75 cents plus federal tax.

As with regular sizes of "Breck Hair Set Mist," the new unit is equipped with a new mechanical break-up button which produces a softer, finer, less sticky and better "holding" hair spray than is possible with regular spray buttons.

According to laboratory and consumer use tests the new Breck package contains sufficient product for up to ten average applications and considerably more if the "Purse-Size" unit is used merely for "touch-up" purposes.

With the introduction of the new unit, a special counter display card designed to hold seven units is being offered. The gold foil display with pink and black printing, has a locking easled-back plus a punched tab for use with peg board displays.

•

Russian Patents Gazette

A new publication to serve as a medium for keeping abreast of newly-published Russian patents has been organized by Technical Information Co., Chancery House, Chancery Lane, London W.C. 2. Called the "Russian Patents Gazette" it contains concise abstracts under various subject headings.

•

Physical Properties Booklet

A new 28-page "Physical Properties" booklet, describing more than 400 synthetic organic chemicals, has been published by Union Carbide Chemicals Co., Division of Union Carbide Corp., New York.

The booklet contains information on applications, physical properties, and shipping data. Included are alcohols; acids; anhydrides; chlorine compounds; esters; ethers and oxides; glycol-ethers glycols and triols; ketones; monomers; Carbowax polyethylene glycols; metallic salts; nitrogen compounds; cyclic compounds; Flexol plasticizers, polypropylene glycols; Ucon fluids, lubricants, and fluorocarbons; Tergitol surfactants; Polyox water-soluble resins; Cellosize hydroxyethyl cellulose; new chemicals for evaluation; and chemicals for special applications.

•

Aerosol to Aid in Childbirth

The Department of Obstetrics of the University of Lyons, France, is currently conducting research into the possibility of administering oxytocin in the form of an aerosol during childbirth. In a preliminary report covering the project, Dr. A. Notter reports that the administration of 10 or 15 units of oxytocin as an aerosol over a period of a quarter of an hour produced a satisfactory response in six primiparae and 14 multiparae cases.

The clinical response was confirmed by tensiometric recordings and no adverse effect was noted in either mother or babies. The report concludes: "It is suggested that better and more consistent results could be obtained if a more consistent particle size — less than 0.5 micron in diameter — were available. The possible use of an oxytocin aerosol is considered to be in the initial stages of labor, particularly in the presence of inadequate dilation of the cervix."

•

Builders Adds to Line

Builders Sheet Metal Works, Inc., 108 Wooster St., New York 12, has added a number of container types to its line of aerosol components and equipment. Included is the Tube Manifold line of disposable cylinders measuring 55, 75, and 132 cubic inches, screw-on topped aerosol bottles, and an aerosol test cylinder measuring eight inches in length.

Also added is an aluminum aerosol test can (in six, 12, or 16-ounce cans) in which the valve is held in place by a stainless steel clamp; plus a complete line of reverse taper clear and reverse taper black overcaps for glass bottles.

•

British Offer Dog Product

A new aerosol product to "protect in-season bitches against the attention of neighbors's dogs" has been developed by Kalium Products (Redditch) Ltd., Redditch, Worcs., England. It is called "Pro-tekt-her."

Aerosol Skin Anaesthetic

The aerosol-applied anaesthetic may prove very useful for minor surgery, particularly in children, contends Dr. David Wheatley in a letter in the Sept. 5 issue of the *British Medical Journal*. Reporting on detailed studies with nestosyl in aerosol form, Dr. Wheatley cautions that its use is limited by the fact that the spray does not penetrate intact skin.

The essence of his studies is reported as follows:

> "The single procedures included skin and perineal suturing, incision of whitlows, removal of warts and subcutaneous foreign bodies, removal of painful dressings, etc. The conditions treated by frequent applications included haemorrhoids, anogenital pruritus, dermatitis, varicose ulcers, burns, painful wound dressings, etc. In the majority of single applications, as for minor surgery, complete or partial anaesthesia was obtained. However, anaesthesia was not satisfactory for suturing skin and perineal lacerations. In most cases anaesthesia developed in 2-5 minutes, and 4 minutes would appear to be the minimum time to allow between applying the spray and undertaking the minor surgical procedure. In the medical conditions treated with frequent applications a satisfactory anaesthetic effect was obtained in the majority of cases also. The duration of this effect was very variable, lasting from one hour to all day in different cases. The majority of haemorrhoid cases cleared up satisfactorily in one to three weeks with the aerosol, but many of the cases of anogenital irritation required other treatment. This may well be because usually in this condition there is secondary infection, and appropriate antibacterial treatment is required in addition to symptomatic applications. One case of varicose ulcer and another of pressure sores healed up unexpectedly following the use of the aerosol.
>
> "Side-effects were not particularly marked, 57% of patients not experiencing any at all. However, initial stinging was experienced in 35% of cases, although this was seldom severe enough to necessitate the omission of treatment. The only other side-effect of any importance was one case of sensitization rash, a recognized hazard with the local application of benzocaine preparations. Provided this is recognized and the therapy stopped, should it appear, it provides no serious contraindication to the use of the preparation."

•

Plan New Pyrethrum Plant

Plans for erection of a new pyrethrum extraction plant at Goma in the Belgian Congo were concluded last month between the Mitchell Cotts

Group and M. L. Hamburger in London. A new company is to be formed by both companies to obtain the land and erect and operate the new plant. Pyrethrum is a primary ingredient in most aerosol insecticides.

•

Revlon VP Resigns

F. Kenneth Beirn last month resigned as vice-president in charge of advertising at Revlon, Inc., after a tenure of just ten months. The resignation was reported on at length in *The New York Times* for Dec. 15. During the past 18 months Revlon has parted company with Martin Revson, executive vice-president, and George Abrams, who also held the post of vice-president in charge of advertising, in addition to Mr. Beirn.

The *Times* reported that Revlon had offered Mr. Beirn several top executive posts within the corporation—possibly including that of head of Schick, recently acquired Revlon subsidiary — to stay with the company. However, he turned these down so that he could assume a post with Gardner Cowles, president of Cowles Magazines, Inc.

Prior to joining Revlon early last year Mr. Beirn was president of C. J. LaRoche & Co., an advertising agency then handling 14 of Revlon's products. He was one-time president of another major New York agency, Ruthrauff & Ryan.

•

Thomasson Adds 2 to Staff

Thomasson of Pa., Inc., Norristown, Pa., aerosol custom packagers, last month named Graydon Cass to be supervisor of its laboratory staff, in charge of quality control and product development. At the same time the company promoted John J. McAnally to be assistant to the president, in charge of special projects.

Mr. Cass, a graduate chemical engineer from Lehigh University, has had 14 years of aerosol development experience at Crown Cork & Seal Co., where he was in charge of that company's aerosol laboratory activities. Mr. McAnally, a graduate chemical engineer from Drexel Institute, is a veteran of ten years in the aerosol protective coatings industry.

ATI Consolidates Plant

The consolidation of its warehousing, receiving and shipping operations in newly-leased facilities near its main plant on State Street and Silliman Avenue in Bridgeport has been announced by Aerosol Techniques, Inc., Bridgeport. With expansion the combined manufacturing, laboratory, general office and warehousing areas will approximate 120,000 square feet, one of the most extensive such establishments in the aerosol industry.

Formerly utilized by the Bullard Co., from whom the property was leased, the new ATI warehouses are situated near Canfield Avenue on a New Haven Railroad siding, with the additional advantages of truck docks. This location is about a half-mile from the plant in western Bridgeport.

Some 15 months ago ATI expanded and relocated its central offices and research-development laboratories, including a completely integrated pilot plant. At the same time there was placed in operation a new aerosol pharmaceutical manufacturing center employing some of the most advanced custom-made equipment in its specialized activities.

•

Grace to Colgate Board

C. Guy Grace, vice-president and general manager of the Toilet Articles Division of Colgate-Palmolive Co., New York, was recently elected to the company's board of directors. He joined Colgate in 1929, and since that time has served in several executive posts. Early last year, he was named president of Wildroot Co., when that firm was acquired by Colgate.

A Correction

The last paragraph of the article on "Diazinon as an Aerosol Insecticide Material" in the December issue of *Aerosol Age* (pages 57 and 58) was incomplete. It should have read: "For a residual spray of this nature, the valve-button combination which generally performs in the most satisfactory manner should have a metering orifice in the vicinity of .018 inches, vale body orifice of from .018 to .030 inches, and a .018 inch reverse taper actuator. This combination delivers a sufficiently narrow coned spray desirable in a residual-type insecticide."

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Winer Sells Puritan Control

Abe Winer (left), president of Puritan Distributing Co., Boston custom filler, has announced sale of controlling interest in his company to Harvey White, former textile executive. Mr. Winer retains minority interest in the company.

•

Fairfield to Sell Strobane

Fairfield Chemicals Division of Food Machinery and Chemical Corp., New York, has announced the availability of Strobane solutions for non-agricultural use through its nationwide sales offices and field representatives. Available in standard 80% concentrates, the solutions are being offered to formulators at new reduced schedules, sold on a delivered basis. Used in a broad range of household and industrial aerosol insecticides, Strobane is described as an effective, fast acting toxicant. Used in conjunction with Pyrenone, Fairfield's piperonyl butoxide and pyrethrins insecticide base, it is said to provide effective control of DDT resistant flies. Used alone, Strobane is a moth proofing agent.

Available in concentrate form only for *non-agricultural* purposes, Fairfield Strobane is a combination of terpene polychlorinates. Complete information and price schedules are available from the company offices at 441 Lexington Ave., New York 17.

•

Predict Aerosol Profit Drop

Profit margins in aerosols "must be expected to fall still further with stepped up competition and price cutting," at least in Britain, Major C. B. Dibben, chairman of Midland Aluminium Ltd. (a major stockholders of Midland Aerosols Ltd.) told a shareholders meeting in November. The British market has experienced a wide range of price cutting this year, particularly for such leading product types as insecticides and room deodorants.

Major Dibben expressed the opinion that increased consumer demand for the products would enable his company to economize on overhead and help offset the reduced margins. He reported that trading results of the group for the first three months of the current financial year "indicate that they should be able at least to maintain profits."

•

Breck Elevates Taylor

John H. Breck, Inc., Springfield, Mass., aerosol hair spray marketer, has appointed John. H. Taylor to the post of sales manager of its Retail Division. Formerly a field sales manager for Breck, he joined the company in 1952.

Johnston to Tube Manifold

Arthur K. Johnston has been named by Tube Manifold Corp., North Tonawanda, N. Y., to handle sales of the company's disposable aerosol containers in the Northwest territory. His sales area will include, Washington, Oregon, and Idaho, as well as the provinces of British Columbia and Alberta.

•

Kurtzweil Joines MM&R

Robert R. Kurtzweil has joined the sales staff of Magnus, Mabee & Reynard, Inc., New York, and will service Wisconsin, eastern Iowa, western and northwestern Illinois.

•

Reynaud Moves to N. J.

Reynaud, Ltd., producers of essential oils and aromatics, recently moved from New York City, to new and larger quarters at 900-910 21st Street, Union City, N. J.

FTC Toughens Stand on Advertising Claims

The Federal Trade Commission and the Justice Department last month reached an agreement to institute criminal prosecution against deceptive television commercials for foods, drugs, and cosmetics. The agreement, which came after a long series of conferences between Attorney General William P. Rogers and Earl W. Kintner, chairman of the FTC, calls for penalties of up to $5000 and six months in jail or $10,000 and a year for second offenders.

The penalties are prescribed by Section 14 of the FTC law, which calls for prosecution if food, drug, or cosmetic products are "injurious to health" or advertised with "intent to defraud or mislead." The new agreement calls for such cases to be routinely discussed with the Justice Department to determine if there *is* a basis for criminal action. Extra powers to act against false and deceptive advertising are provided for under section 12 of the FTC act.

In the past ten months, three aerosol marketers have been rapped on the knuckles by the FTC for misleading advertising claims. In March, the FTC required Max Factor & Co. to stop misrepresenting that its "natural wave" hair spray will change naturally straight hair to naturally curly hair. In September, the agency issued an order to Allchem Manufacturing Co. to stop representing that its "Kill Flame" aerosol fire extinguisher is non-injurious to health when used to extinguish a fire, or is effective in putting out all types of fires. In November, the FTC filed a complaint against Colgate-Palmolive Co., charging that its television ads claiming the ingredient "Gardol" forms a "protective shield" for teeth are "false and misleading." Pending appeal of the case Colgate is continuing the advertising on national network television.

Store Demonstrations

(*From Page* 40)

of total gross sales, which is considered a highly impressive figure in a store which retails bathroom fixtures, power tools, etc., which retail for upwards of $100. In the two stores where demonstrations were not conducted, aerosol dollar sales amounted to 0.65% and 0.7%.

A total of 468 aerosol units were sold during the four days in the three stores, and the Succasunna store ac-

counted for 63% of these. This total compares with an average monthly sales figure of about $800 (at retail price) for all three stores.

This high figure was reported despite the fact that normal store traffic was reduced considerably due to bad weather and effects of the steel srike on chemical industries in that area of New Jersey.

The whole project was aimed at showing that demonstrations could be the greatest single merchandising technique, at the retail level, to sell aerosols. It was sponsored by the Aerosol Division of the CSMA in conjunction with advertising paid for by Rickel Bros.★

•

Pond's Acquires Aziza Co.

The Prince Matchabelli Division of Chesebrough-Pond's Co., New York, last month acquired the "Aziza" line of eye cosmetics formerly marketed by Mauvel, Ltd. The acquisition of the line, which had been marketed by the Aziza Eye Cosmetics Division of Mauvel, was completed through an exchange of stock.

New Consumer Survey

(*From Page* 40)

of which are already available in aerosols, 29 men mentioned 23 such products, 12 of which are currently available as aerosols. This would seem to indicate that it takes longer than the industry thinks for the consumer to learn about new aerosol product types.

The demonstration, which was conducted in another part of the store, drew good comments from those who had seen it. Of the 94 women interviewed, 41 had seen the demonstration. 35 of these commented favorably on the demonstration, most of them giving the reason that it "taught them about a large number of products they didn't know existed in aerosol form (i. e. shoe polish, leaf spray, rug backing, etc.)" 24 of the 59 men interviewed saw the demonstration, with a similarly large percentage reporting favorably.

The following is a break down of products regularly bought by the respondents to the survey:

	Female	*Male*	*Total*
Insecticides & Insect Repellents	56	41	97
Room Deodorants	54	28	82
Shave Cream	43	37	80
Paint	39	34	73
Window Cleaner	38	12	50
Furniture Polish	37	9	46
Hair Spray	28	5	33
Whipped Cream	20	8	28
Garden Spray	15	5	20
Snow	11	5	16
Perfume	9	3	12
Cleanser	6	4	10
Toothpaste	7	3	10
Plant Leaf Shine	7	2	9
Shoe Cleaner	7	—	7
Personal Deodorant	6	—	6
Car Wax	3	3	6
Oven Cleaner	6	—	6
Animal Spray or Shampoo	4	2	6
Moth Spray	3	2	5
Dustmop Spray	2	3	5
Oil Spray	1	4	5
Hand Lotion	4	—	4
Rust Preventive	1	3	4
Garbage Can Deodorant	—	3	3
Auto Polish	1	2	3
Cooking Oil	3	—	3
Varnish	3	—	3
Fire Extinguisher	—	2	2
Plastic Spray	—	2	2
Cortisone	—	2	2
Ignition Spray	—	2	2
Record Cleaner	—	2	2
Toilet Bowl Deodorant	—	2	2
Linen Spray	2	—	2
Rug Cleaner	2	—	2

Can you think of a product that you would like to see packaged in aerosol form?

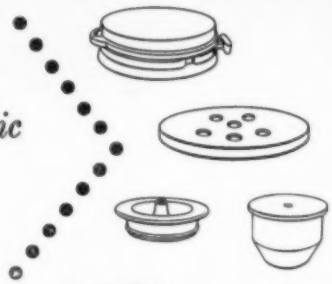
FEMALE

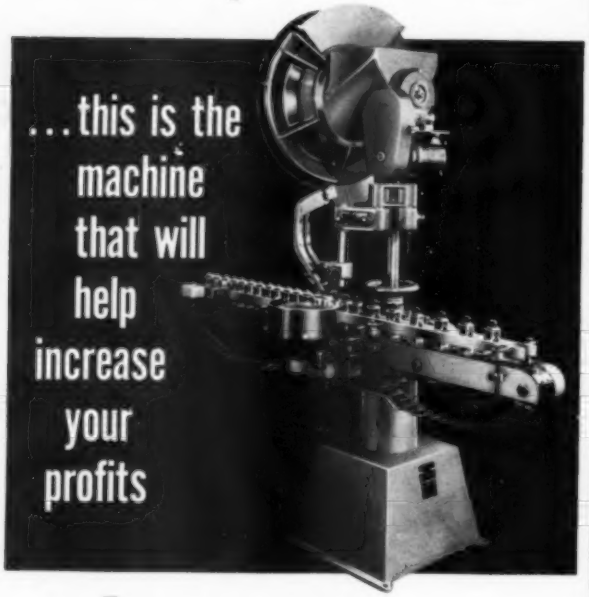
Floor Wax (6); Shoe Polish—all colors (6); Camphor for moths (3); Ketchup (2); Frying pan oil (2); Oven Cleaner (2); Hand Lotion (2); Sandwich Spread (2); Oil (2); Spray Soap for children (2); Perfume (2); Ammonia (2); Peanut Butter; Mayonnaise; Glaze for ham (and other foods); Glue; Shampoo; Noxzema; Suede refinisher; Deodorant; Rug Vacuum (?); Permanent Wave Fluid; Evaporated Milk; Vinegar; Furniture Wax & Polish; Hard plastic spray for outside of house; Detergent; Bleaches; Salt (because of dampness); Upholstery Cleaner; Motor Cleaner; Soap powder; Clear lacquer; Glasswax, and Nail Polish Dryer.

MALE

Oil (3); Ketchup (2); Pancake Syrup (2); Windshield Defroster; Glue; Mustard; Honey; Salad Dressing; Hair Spray; Wood filler; Industrial Oil (Retail); After-Shave lotion; Aluminum cleaner; Soap (bath and hand); Shoe Polish; Flower spray; Oven cleaner; Pancake batter; Touch-up Auto Paint; Motor Cleaner; Rubber Lubricant, and Metal trigger handle for attachment to cans (plastic one broke).

If you are using plastic fitments like these





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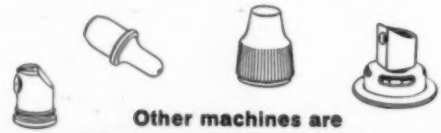
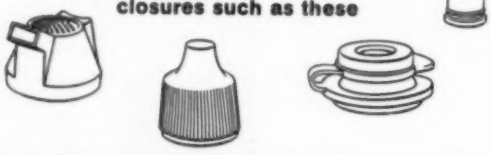


Other machines are available to handle odd shaped closures such as these



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Revlon Drops "Big Party"

Revlon, Inc., major aerosol marketer, last month announced plans to discontinue sponsorship of "The Big Party." Reason given was that the program failed to obtain a high enough rating.

Revlon said it would introduce a new series of variety programs over the same television network, Columbia Broadcasting System.

•

Fuld Bros. Names Gurey

Jack Gurey has been appointed Northeastern sales representative for Fuld Bros., Inc., custom fillers of Baltimore and Los Angeles. In addition to handling his new territory, he will also assist in the Metropolitan area. Mr. Gurey has 12 years experience in the sanitary maintenance field.

•

Pauline Foster Retires

Pauline Foster, vice-president in charge of marketing for Fabergé Perfumes and Juliette Marglen, retired late last month after 30 years in the cosmetic industry. She will continue with Fabergé on a consulting basis.

TGA, SCC Meet

(*From Page* 39)

arterosclerotic diseases.

Two papers at the session concerned instrumental evaluation of fragrance materials. James A. Rogers, Jr., director of the instrumental laboratory of Fritzsche Brothers, Inc., described the use of instrumental analysis to evaluate Citronella and Palmarosa oils. Dr. Ernest T. Theimer, director of research of van Ameringen-Haebler, described the application of ultraviolet, infrared, mass and nuclear magnetic resonance and the separation technique of vapor phase chromatography to the structure proof of a number of fragrance materials.

In the project of Mr. Rogers, instrumental analysis resulted in the isolation of new components, as well as the confirmation of some wet methods of work. In Dr. Theimer's work, a mixture of primary terpene alcohols of known composition was separated and analyzed and the structure of Geraniol and Citronellol derived using these techniques alone.

Dr. Peter Flesch, noted dermatologist from Philadelphia, reported that treatment of bleached hair, immediately after bleaching, with acid solutions of pH 2.0-3.8 greatly decreased its vulnerability to water. He said this apparently causes precipitation of water soluble components within the hair shaft. The hardening of the acid-treated bleached hair is also manifested in its decreased sulfhydryl content and its greater resistance to damage caused by thioglycolates.

New instrumental advances in the objective measurement of breath odor and deodorization was reported by Drs. Donald Mackay and Murray Berdick, Evans Research and Developments Corp., and Dr. David A. Lang, American Chicle Co. The paper described in detail how use of toothpaste or candy mints (containing a formulation based on copper gluconate) markedly reduced volatiles on the breath.★

Aerosols in Review

(*From Page* 44)

C, orange oil, artificial coloring, and sodium benzoate."

The article points out that the 16-ounce aerosol can is priced at 49 cents and clearly lists the contents as 9½ ounces. "A. T. Rossin, Tropicana's president, sees little or no competition between the new drink and the company's chief product, chilled orange juice in milk-carton-style containers. Chilled juice markets are limited, since refrigeration is required. The instant orange drink requires no refrigeration." The latter point is expected to help the product find acceptance in foreign countries, in military installations, and perhaps in college dormitories, where there usually isn't refrigeration.

The article reports that Tropicana is particularly excited about the aerosol idea, and plans to market lemonade, limeade, grapefruit, pineapple-

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The SNOW-MAN may also be used to produce dry ice with Aerosol cold filling. The dry ice is used in conjunction with coils of copper tube cooling the aerosol propellants well below their boiling point so they can be handled in open containers.

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grapefruit, and grape drinks in this form during 1960.

•

INTRODUCTION of a series of new aerosol furniture polishes has made the aerosol prime contender in the $30 million per year furniture polish field, reports the Nov. 21 issue of *Chemical Week*. Development of a new foam formulation by Union Carbide, plus introduction of products by Bon Ami, Paramount Chemical Co. (Los Angeles) and ready-to-debut products of Simoniz Co. and the O'Cedar Division of American-Marietta (both of Chicago) and Renuzit, Philadelphia, should get aerosol furniture polish moving swiftly by next year.

Introduction of new types of furniture — formica, vinyl, and chrome topped items — coupled with falling polish sales, is credited by *Chemweek* with speeding up research on aerosols. The "mist-type" emulsion polishes, such as "Pledge," it is reported, contain about 3% silicones, 3% waxes, 5% emulsifiers, 24% mineral spirits, and 65% water. "The foam aerosol polish shown by Carbide has this formulation: 3% silicones, 2% microcrystalline wax, 2% triethanolamine lauryl sulfonate, 2% oleic acid, 1% triethanolamine, 20% mineral spirits, 1% Carbopol solution, 59% water, 1% nonionic alkylanolamide, plus a propellant.

"Some observers in the field feel that foam aerosols eventually could threaten the popularity of the mist aerosols now on the market. Foams are easier to apply, and will not run off vertical surfaces."

•

"NO small fire extinguishers are effective and dependable," declares the December issue of *Consumer Bulletin*, long a foe of aerosol fire extinguishers. The periodical is particularly vehement about the grenade or globe extinguisher, which is supposed to put out a fire by dropping on it when the blaze begins to give off heat.

"Common sense could tell us that the large and sudden energies that are set free in a blaze of highly flammable material cannot be suppressed by the action of any small or compact extinguisher, no matter what it contains or how it works. Such a fire is most unlikely to be effectively dealt with by an extinguisher of a grade and type too low to be approved by the Underwriters Laboratories. . . ."

The article particularly cautions against poor or ineffective extinguishers which are sold by charities and other groups. ". . . Everyone should be taught about all the common kinds of extinguishers they should *not* use or rely upon. These include grenade or glass ball 'automatic' extinguishers, vaporizing liquid (carbon tetrachloride) extinguishers, including 'beer-can' (aerosol) extinguishers, extinguishers made of a plastic envelope to be squeezed to eject the liquid, all extra-small or very compact extinguishers. All of these have been sold by reputable department and hardware stores, whose buyer personnel have no training in the principles of fire extinguisher design and utilization." ★

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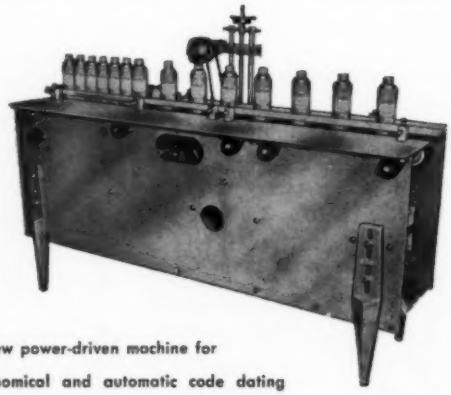

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Aerosol Movie Device

(*From Page* 29)

movie reviewer for the *Times*, had this to say (Dec. 10):

"The odors concocted to characterize the scenes are mostly elusive, oppressive, or perfunctory and banal. . . .They are merely synthetic smells that occasionally befit what one is viewing, but more often they confuse the atmosphere. Probably the most impressive comes in the prologue when Chet Huntley, the narrator, cuts and squeezes an orange and the fragrance of it drifts through the theatre. . . .

"Thereafter, the smells are less condusive to definition or enjoyment. During a hurried tour of Hong Kong, there emerges a sort of spicy smell. A tarrish or oily odor comes with a scene on the waterfront. A light fragrance somewhat suggesting wet straw emerges in the scenes of the cormorant fishes, and the sequence of the tiger hunt is accompanied by an odor that struck this viewer as that of banana oil. Several times there's a smell of smoke or incense, and the scenes of the parade with flowers are rendered almost distressing by a vaporized squirt of cheap perfume.

"In between the suffusions of odors, the air in the theatre is cleared by a purifying treatment that itself leaves a sticky sweet smell, which tends to become upsetting before the film has run its full two hours. When this viewer emerged from the theatre he happily filled his lungs with that lovely fume-laden New York ozone. It never has smelled so good!"

In a devastating first paragraph, Mr. Crowther termed the device as a "stunt" and said the "artistic benefit of it is here demonstrated to be nil."

Time magazine was equally unimpressed. "It could be guaranteed, on the basis of its first showing," the magazine said in its "Cinema" column for Dec. 21, "to turn even a good movie into something of a stinker. . . .

"Unhappily, the system sounds better than it smells. To begin with, most of the production's 31 odors will probably seem phony, even to the average uneducated nose. A beautiful old pine grove in Peking, for instance, smells rather like a subway rest room on disinfectant day. Besides, the odors are strong enough to give a bloodhound a headache. What is more, the smells are not always removed as rapidly as the scene requires: At one point the audience distinctly smells grass in the middle of the Gobi Desert.

"Are smellies here to stay? Or are they just another cinema gimmick that will soon be one with the paper goggles of yesteryear? No doubt the public will get tired before very long of having its nose tweaked. But if the smelliemakers can provide more realistic smells and make more intelligent use of them, the scent track might offer rather more than meets the noze. Exhibitors can sniff secondary possibilities in 'the olfactory dimension.' One of them has suggested that if he could give his customers the smell of steam heat, he mightt be able to cut down his oil bill. Another plans to fill his theater, at tactful intervals, with the scent of buttered popcorn."★

Solubility Symposium

(*From Page* 28)

have been used extensively in non-aerosol cosmetic and pharmaceutical preparations, are difficult to formulate alone with usual propellants because the solubility of the propellants in the glycols is not sufficient to obtain a satisfactory spray. For most of these glycols, a 30/70 mixture of 22 and 11 is an excellent propellant, as a result of its high solubility in the glycols."★

•

LOW cost, water-based, two-phase aerosol residual and space sprays are possible through careful selection of corrosion inhibiors, D. C. Geary, of the aerosol technical service laboratory of Union Carbide, told the solubility symposium at the Aerosol Division Meeting on Wednesday, Dec. 9. Explaining that incompatibility with propellant, container corrosion, oiliness, and dispensing of the prod-

uct as a cold, coarse, wet stream have all been deterring factors. Mr. Geary said that increased quantities of water will permit reduced formulation costs, reduced flammability, and incorporation of ingredients soluble only in H_2O.

Pointing out that the Union Carbide study was conducted mainly with binary systems of fluorocarbon propellants and solvents which have found wide use in household, industrial, and cosmetic formulations, Mr. Geary explained that the solvents found to be miscible in all proportions with propellants 11, 12, and 114 were screened to determine which were also miscible with H_2O.

"The binary solubility studies of solvent and fluorcarbon propellants were conducted at 70°F. in the following manner. Two-tenths grams of solvent were placed in a Fischer-Porter Compatibility Tube. Propellants were added by pressure filling until 99.8 grams were present or until changes in miscibility were attained. The miscibility or immiscibility or points of change in miscibility were recorded as observed in the 0.2% solvent-99.8% propellant to 50% solvent-50% propellant composition range.

"Forty-seven and one-half grams of solvent were placed in a second compatibility tube; 2.5 grams of propellant were added. The miscibilities or immiscibilities at the 95% solvent-5% propellant level were observed. If the compositions were miscible, propellants were added until 47.5 grams of solvent and 47.5 grams of propellant were present or immiscibilities were observed. The miscibility or immiscibility or points of change in miscibility were recorded as observed in the 50% solvent-50% propellant to 95% solvent-5% propellant composition range.

"In those cases where definite amounts of the solvent and propellant were weighed into the compatibility tubes, the miscibilities were determined after the tubes were shaken and allowed to attain equilibrium at 70°F. In those cases where the propellants were pressure filled into the compatibility tubes containing a definite weight of solvent, the tubes were preconditioned at 70°F. Propellants were then added until incompatibility could be detected. The tubes were shaken and allowed to attain equilibrium. If compatibilities were restored, propellants were again added until incompatibility could be detected. These procedures were repeated until compatibility could not be reattained by shaking or conditioning. The compositions of solvent and propellant were calculated from the weight of material in the tube."

Mr. Geary reported that methanol 100%, ethanol 100%, isopropanol 99%, "Carbitol" acetate, "Cellsolve" Solvent, hexylene glycol, acetone, morpholine, and "Ucon Fluid 50 HB55" were found to be miscible in all proportions with propellants 11, 12 and 114, and were screened for complete miscibility with H_2O. Of these isopropanol 99%, "Carbitol" acetate, "Cellosolve" solvent, hexylene glycol, and "Ucon Fluid 50 HB55" were selected as components in the ternary systems with propellant and H_2O.

He pointed out that it was assumed that those liquids which were miscible in all proportions with H_2O and fluorocarbon propellants would act as the best cosolvents for mixtures with H_2O and the propellants, but that actual experimentation (with "Carbitol" acetate) proved this assumption false. "Until a sufficient number of possible cosolvents are screened, it will be impossible to determine the effects of various radicals or chemical groupings, individually or in combination, or the miscibility of water and fluorocarbon propellants. . . . Experimental work to date indicates that 99% isopropanol and "Ucon Fluid 50 HB55" will permit a maximum of 50% H_2O in combination with propellants 12 or 22. Variations in valve orifices will permit the formulator to obtain suitable residual or space sprays. Desirable aerosol formulations incorporating more than 50% H_2O may be obtained by studying possible cosolvents which are individually completely miscible with H_2O and moderately miscible in fluorocarbon propellants."

Mr. Geary then suggested a number of formulations employing these solvents and propellants, but cautioned that they exhibited severe container rusting, pitting, and product breakdown in lacquered and unlacquered 0.5 pound tinplate cans. "Eleven inhibitors were incorporated into the formulation which exhibited the severest corrosion. Four of the eleven inhibitors prohibited detinning, rusting, or product breakdown in 0.5 pound tinplated, three-place lacquered aerosol containers at 130°F. for two weeks. The most promising inhibitor was incorporated into each of the formulations. To date no rusting, detinning, or product breakdown is detectable after shelf testing for two months at 130°F. or three months at 100°F. The remaining three inhibitors are still on test."★

•

CONTINUING the symposium on solubility, James A. Brown, of the technical service laboratory of General Chemical Division of Allied Chemical Corp., Edgewater, N. J., declared that a propellant having no hydrogen and a high flourine content appears to be least likely to cause trouble in an aerosol containing a plastic. He said this situation is true except for such plastics as Nylon, Saran, Bakelite, and Teflon.

"The method used to determine the swelling characteristics of the plastics was essentially that of ASTM Method D543-52T. Two slight modifications to this procedure were found to be necessary. Test strips of the various plastics were prepared having the following dimensions: ⅞ x 3 7/16 x ⅛". The ASTM procedure suggests 3" x 1" strips. The dimensions of the samples were modified so that they could be accommodated by standard Fischer Porter aerosol compatibility tubes. The strip length was then increased to maintain the 7 square inches of surface area as specified by ASTM. The other modification involved the preconditioning of the sample strips. Facilities for maintaining constant humidity conditions for the 48-hour period prior to actual test were not available. However,

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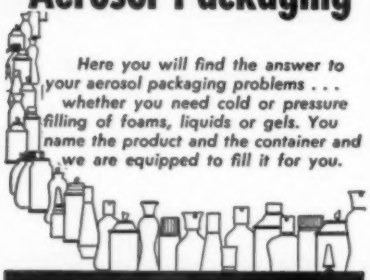

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during this interval the samples were at an approximate temperature of 25°C. and exposed to 30-50% relative humidity.

"The plastic test strips were measured and weighed prior to and immediately following the immersion period. The dimensional measurements were made to the nearest mil using an Ames 0-4 micrometer. This instrument has divisions of 0.001 inches. Weighings of the sample were made on a standard laboratory analytical balance with an accuracy of approximately 0.2 mg. After initial measurements had been noted, the plastic test pieces were placed in small cylindrical jars measuring approximately 5 inches in length and 1 inch in diameter. The appropriate propellant was then added and the bottle capped. Propellants having a vapor pressure in excess of 1 atmosphere at ambient temperature were run in 3-ounce Fischer-Porter Pyrex compatibility tubes equipped with a standard aerosol valve. The bottles and tubes were then stored for a period of seven days at 23-25°C."

Mr. Brown then described how the samples were taken out of the solvent, wiped dry, weighed and measured. After another two weeks, he explained, additional measurements were made to determine whether certain plastics exhibited a permanent deformation or weight change.

Summing up the results of his findings, which he showed in detailed tables, Mr. Brown concluded: "In general, it was observed that Bakelite, Nylon 6, Nylon 66, Saran, and Teflon were only slightly affected by all these solvents. With the exception of propellant 114a, polyethylene showed a weight gain in excess of 10% after immersion in all the solvents. Polystyrene broke down completely in all but the solvents containing the most fluorine in the molecule. The vinyl compounds were attacked considerably by the solvents containing hydrogen in the molecule."

"In order to obtain some general ideas as to the effect of various atomic constituents in the molecule, a summation was made of all the

percentage changes found for each solvent. If a sample completely broke down, the percentage change was taken to be 100. This gave us a rather arbitrary but indicative measure of the relative solvent power of each propellant, and also a possible clue as to how the atomic constituents of the solvent molecule affected its attack on the plastics tested.

". . . Although it is apparent that there is some overlap between the methane derivatives and the ethane derivative, if each group is examined separately, certain apparent and interesting relationships are noted. In the methane derivatives the following progression is apparent:

CH_2CL_2 > Propellant 21 > Propellant 11 > Propellant 12

It appears that hydrogen in the molecule leads to greater swelling so that methylene chloride and propellant 21 show a considerably larger effect on plastics than propellants 11 and 12. Also, the effect of propellant 12 is much less than that seen for propellant 11, which would indicate that as the fluorine content of the molecule increases, the solvent's degenerative effect on plastics is decreased.

"Looking at the ethane derivatives, it is apparent that increasing the fluorine content of the molecule decreases the swelling effects of the solvent, as shown by the following progression:

propellant 114a < propellant 113 < propellant 112★

•

THE final paper of the solubility symposium was titled "Solubility Parameters and Their Application to Aerosols," by Allen B. Reed, Jr., of the "Isotron" aerosol technical service laboratory, Pennsalt Chemical Co., Mr. Reed explained that the solubility parameter is "a number assigned to a solvent or polymer that gives an indication of its solubility characteristics without relating it to another solvent or a special solute. It ranges in value from a low of 5.5 for silicones to a high of 23.4 for water. Most solvents and polymers, however, fall in the range of 7.5 to 12.7.

"Solubility parameters may be applied to all solutions that are a combination of a solvent and a polymeric film former," he explained, pointing out that development of this concept represents a considerable improvement over existing empirical laws and rules of thumb. "From the study of thermodynamics we know that whether or not reaction proceeds is a function of the change in the 'free energy' of the reaction. If the free energy has a negative value, the reaction will proceed. In our case the reaction is the process of solution."

Explaining the formulas which determine this reaction, Mr. Reed noted that when the solubility parameters of the two components (solvent and solute) are equal, solution will occur. In estimating this, he said, the assumption that the vapor above the liquid behaves like an ideal gas is valid for solvents whose boiling points are above room temperature. But he emphasized that use of latent heats of vaporization that have been determined experimentally constitutes the best and most accurate method for determining the solubility parameter.

"The determination of the solubility parameters for the solutes must be carried out in a different manner. The structure of the molecules and their physical characteristics makes it impossible to experimentally determine the thermodynamic data necessary for the calculation. Most polymers decompose before they have an appreciable vapor pressure. Small has suggested a scheme to calculate the solubility parameter of the polymer which utilizes the molecular weights of the monomer and assigns values to various molecular structures.

"Since it is difficult to gain the energy data for the polymers, the solubility parameters are determined indirectly. A group of solvents, whose solubility parameters are known and cover a range of values, is chosen. The solubility parameter of the polymer is taken to be the parameter of the solvent in the middle of the solvents in which the polymer is soluble. The value for parameters is usually given as a range."

Mr. Reed suggested that the solubility effect of hydrogen bonding is

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one exception to this approach, pointing out that the tendency of the solvent to form "hydrogen bridges" is apparently of considerable importance. Turning to specific aerosol applications, he declared: "In an aerosol formulated to be a paint or protective coating, the propellant must be considered as part of the solvent composition. The effect of the propellant in this capacity is very important since it is often 50% of the total weight. Workers in the aerosol field know this as a result of practical experience. The adaptation of a standard paint to an aerosol can rarely be accomplished by the mere addition of propellant to the paint. A common result of this practice is the formation of precipitates and, of course, valve clogging."★

Sales Effort

(*From Page 27*)

ment on its ever increasing sales volume, Mr. Schafer cautioned that this trend can't be relied on to pull up by the bootstraps the package of a new marketer. He advised that any aerosol marketer must feel what he makes is the *best* product for that particular use and he and his salesmen must feel they can sell it with genuine enthusiasm. Calling this characteristic of evoking enthusiasm the "touch of greatness," Mr. Schafer suggested that it should be felt in the laboratory, in package development, in sales and in merchandising, and that honesty is a vital part of it.

"Despite the fact that your industry has succeeded in capturing nearly 20% of the window cleaner market, my company is *stuck with* a window cleaner (Glass Wax) which won't package as an aerosol," Mr. Schafer admitted ruefully.★

Aluminum Aerosols

(*From Page 27*)

considered with extruded aluminum.

Outlining the method of manufacture employed by the Bradley-Sun Division of American Can, Dr. Jackson said that a wide range of sizes and shapes is possible through use of this method. The bursting strength for these containers, he reported, is 250 psig. Anodizing is one logical exterior coating innovation, but increased magnesium has been found to increase corrosion. Interior coatings, he said, have been discovered to work better when at least two coatings are used — the first an epoxy or phenolic, the other a vinyl.

Dr. Jackson suggested that valve mounting cups should be aluminum if possible to avoid complicating the corrosion picture.★

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Aerosol Good Package

(*From Page* 26)

scoring system.

Turning to specifics, Mr. Sims complimented the marketers of "Myra" window cleaner, "Hep" oven cleaner, and "Spra Tan" sun tan lotion for excellent use of pictorial incorporated on the can label. "The illustration is the most economical way to reach the shopper's attention," he emphasized.

Pictorial effects are particularly important on aerosol food products, since they can provide excitement and create appetite appeal. In this category he cited Nestle's "Zip", "Lucky Whip", and "Sizzl Spray."

Mr. Sims heaped special praise on cosmetic marketers for adapting color and shape in interesting variations to the aerosol package. The perfume or cologne refill cartridge is an especially significant development, he suggested, since it promotes brand loyalty and provides for longevity of design.★

Nielsen Survey

(*From Page* 24)

ket."

Acknowledging that such a tremendous sales growth cannot be anticipated for an ordinary aerosol product, Mr. Peckham expressed the opinion that shave creams were so successful because they "actually represented a demonstrably increased value to the consumer, an increased value that the consumer could experience for himself and actually believe in."

In conclusion, he pointed out, "Since the *proper* application of aerosols almost invariably results in a new or demonstrably improved product, manufacturers able to adopt them can look forward to substantial increased growth for the entire field of which they are a part—perhaps at a pace twice as fast as other products not having the benefit of this improved package. Furthermore, Nielsen data also show that the first manufacturer on the market with a product improvement almost always secures the lion's share for his brand.

"You have your own list of prospects for aerosol development, of course, but in the food/drug field I believe that shampoos, men's hair dressings and hair tonics, the very important and fast developing field of general-purpose household cleansers, and furniture polishes, all offer splendid opportunities both from the standpoint of potential and the all-important factor of consumer convenience in application. The food/drug consumer sales of these three product categories alone total approximately 600 million units annually. Even if you of the aerosol industry are able to convert only 30% of this potential over the next five years, you will have built a very substantial additional volume — about 50% more than your 1957 production from all non-food sources combined."★

Perfumery Problems

(*From Page* 22)

of different components which they now have. Within the next few years when this standardization is accomplished, better consumer products will be available and the cost of production should be reduced considerably.

Such a system of aerosol standardization will help both the perfumer and the cosmetic chemists as they will no longer be faced with the many variables that exist today. It will give them more flexibility as to the type of cosmetic and perfume formulations which can be made and allow them even more freedom of ingredient choice than they have today. With a smaller number of standardized components to choose from, they will be able to prepare complete research histories on each and will be able to choose the component that will be best suited for the product being developed.

The future will also bring other new developments in pressure packaging. We can safely predict a tremendous market for this packaging medium in foods and pharmaceuticals, where its use will far surpass that of cosmetics and toiletries.

In addition, almost every conceivable type of toiletry will eventually appear in pressurized form. Face powders, lipsticks, hair tints and dyes, hair waving preparations will all be aerosol packaged. Aerosol sanitizing and degerming specialties containing highly effective bactericidal ingredients will become as familiar to the housewife as the hair spray is today. And the use of these items will not be limited to the home. They will also be used in hospitals, in schools and for industrial applications. Many more products which we feel will be aerosol packaged might be mentioned. One thing is, however, certain, the aerosol can be expected to play a much bigger role in packaging during the years to come and fragrance will have a major part in its further expansion.★

Foreign Patents

(*From Page* 33)

license agreements is seriously compromised. While most self-respecting firms abroad are usually willing to discuss terms with an American inventor for a manufacturing license, even though patent protection does not exist and cannot be obtained, it is obvious that negotiations on the American side are conducted from weakness rather than from strength and that such terms as are offered by foreign interests for the manufacturing license must almost always be accepted on the theory that something is better than nothing at all.

Whether patent applications are filed abroad or not depends upon many circumstances; however, it is well to bear in mind the fact that a basic policy decision on this point should be made early enough so that established procedures may be followed to guarantee that the protection desired can be obtained. The consequences of not taking timely action—while often evidencing themselves at a somewhat later date—can nevertheless be very severe to eventual development of a successful and profitable international program.★

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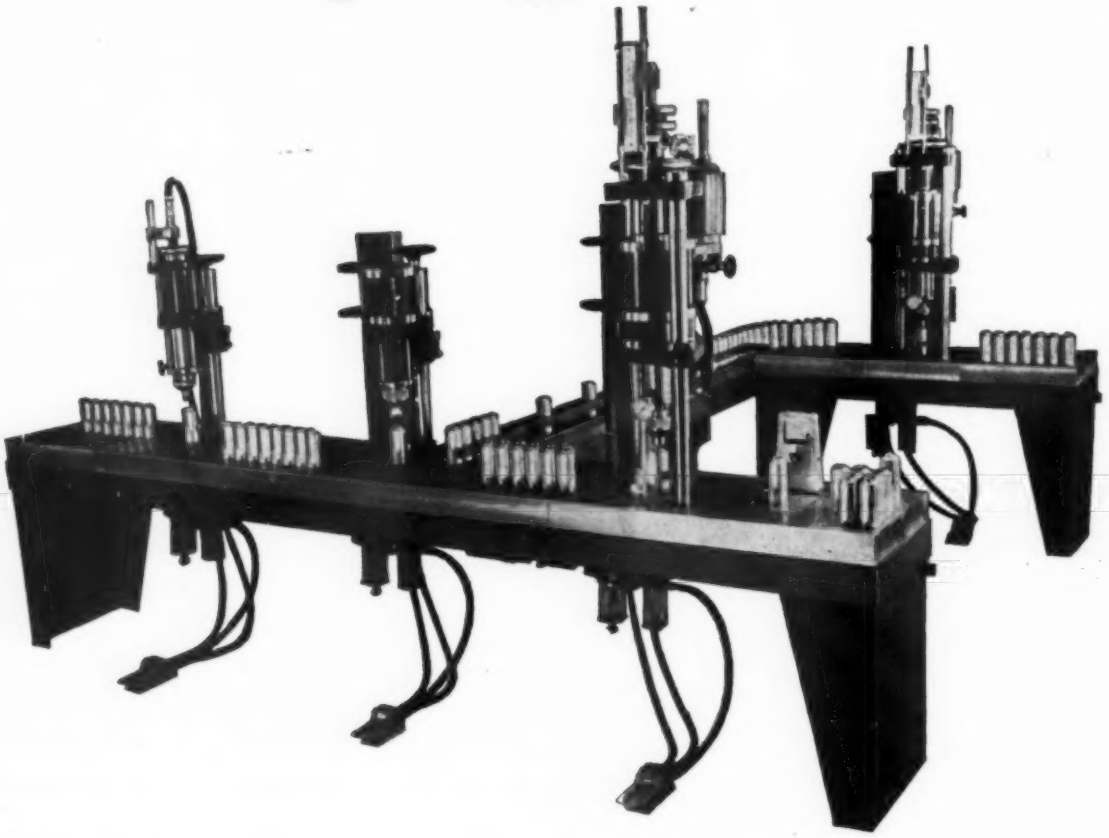

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New Aerosol Patents

Listed below is a brief review of recent patents pertinent to the aerosol and related industries.

Complete copies of these patents may be obtained by writing to the Commissioner of Patents, U. S. Patent Office, Washington 25, D. C., and remitting 25 cents for each copy desired.

REISSUE 24,730. PORTABLE DEVICE. Reissue dated Oct. 27 of original patent 2,840,032, to Charles E. Graham Reeves, assignor to Falcon Alarm Co., Summit, N. J.

A self-powered, portable signalling device comprising a container, a supply of vaporizable liquid in said container, said vaporizable liquid having a density when in vapor form up to four times the density of air and being vaporizable at atmospheric pressure at temperatures as low as —20° F., a fitting removably connected to said container and having a first conduit which communicates with the interior thereof, a housing connected to said fitting, said fitting having a second conduit which communicates with the interior of said housing, a manually operable valve connected to and carried by said fitting, the conduits in said fitting being adapted to communicate with each other upon the opening of said manually operable valve, and a diaphragm-type horn carried by said housing and operatively communicating with said second conduit, the diaphragm of said diaphragm-type horn being substantially circular in shape and disposed in said housing, the diameter of said diaphragm being less than two and one-half inches.

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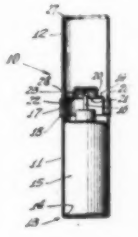
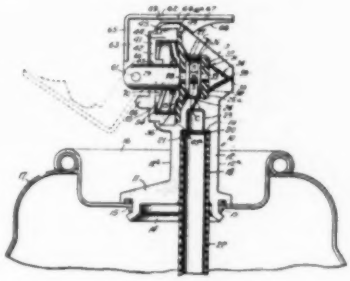
2,914,222. AEROSOL PACKAGE. Issued Nov. 24 to Philip Meshberg, Fairfield, Conn.



A dispensing package for aerosol products comprising a housing having a fixed member provided with a bore therein forming a passage communicating with a dispensing nozzle, an aerosol container having therein fluid under pressure slidably mounted in said housing and having a projecting valve stem at one end adapted to fit into said bore, said stem having a passage communicating with said bore, the other end of said container having means for receiving finger pressure to be applied thereto to cause said container to be moved toward said fixed member and said valve stem to be moved into said container to cause the fluid in the container to be dispensed therefrom and through said nozzle, and means on the housing cooperating with the container to prevent inadvertent operation thereof.

•

2,911,158. AEROSOL CAN SPRAY HEAD. Issued Nov. 3 to James A. Doyle, Baltimore, assignor of 24½% to Henry L. Wingo Kingsville, Md., and 24½% to Vernon Caldwell, Baltimore.



In an aerosol spray head for an aerosol spray can, a die cast body comprising a disc-like lower portion, an intermediate column-like portion and a generally cone shaped upper portion, a die cast dish-shaped cap complementing said body and associated with the base of said cone-shaped upper portion, the axis of said cone-shaped portion being generally transversely disposed with respect to the general axis of said column-like portion, said column-like portion being generally in the shape of a triangular prism with the apex of its triangular section facing in the same general direction as the projected apex of said generally cone-shaped upper portion, said disc-like lower portion having a diameter greater than the altitude of the triangular section of said intermediate column-like portion, said lower portion having an extending part adapted to be associated with the margin forming a hole in the top of an aerosol can, said upper portion being formed with a spray orifice, interior walls forming a valve chamber, a valve in said chamber for controlling said spray orifice, an annular slot formed in said valve to form at least a portion of a metering chamber, interior walls in said lower portion and said intermediate portion forming a passage leading from the bottom of said lower portion through said intermediate portion to said metering chamber, said valve having walls for controlling said passage leading to said metering chamber.

•

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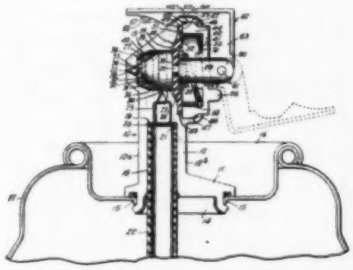


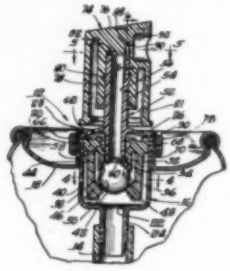
In an aerosol spray head for an aerosol spray can, a die cast body comprising a disc-like lower portion, an intermediate column-like portion and a generally cone shaped upper portion, a die cast dish-shaped cap complementing said body and associated with the base of said cone shaped upper portion, the axis of said cone-shaped portion being generally transversely disposed with respect to the general axis of said column-like portion, said column-like portion being generally in the shape of a triangular prism with the apex of its triangular section facing in the same general direction as the projected apex of said generally cone-shaped upper portion, said disc-like lower portion having a diameter greater than the altitude of the triangular section of said intermediate column-like portion, said lower portion being formed with a spray orifice, interior walls forming a valve chamber, a valve in said chamber for controlling said spray orifice, means for operating said valve, interior walls in said lower portion and said intermediate portion forming a passage leading from the bottom of said lower portion through said intermediate portion to said valve chamber.

•

2,912,173. AEROSOL VALVE, VALVE ACTUATOR THEREFOR AND AEROSOL DISPENSING NOZZLE. Issued Nov. 10 to Bryant Edwards, Oak Park, Ill., assignor to Illinois Tool Works, Chicago.

A dispensing valve for pressure containers and the like comprising a one-piece resilient plastic cup-shaped member having an opening therethrough and including an outwardly extending peripheral flange, a one-piece resilient plastic body member traversing an

upper end of said cup-shaped member and having a central passageway therethrough and including a peripheral flange overlying said first mentioned flange, integral axially depending thin wall resilient tube means on said body member providing a downwardly facing resilient valve seat encircling the central passageway, a valve element shiftably disposed against said valve seat, a plurality of resilient finger means integral with and extending generally axially from



one of said members and engaging said valve element and yieldably retaining the valve element against said valve seat, a tubular actuating member extending through said central passageway and depressible for shifting said valve element from said valve seat, a resilient diaphragm joined to said actuating member and having a peripheral flange overlying said first mentioned flange, and means interconnecting said flanges, said diaphragm normally maintaining said actuating member in a raised position.

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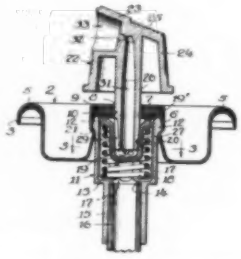
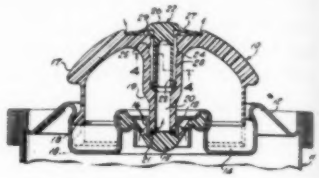
2,913,154. AEROSOL VALVE ASSEMBLY. Issued Nov. 17 to Clarence O. Kuffer, Niles, Ill., assignor to Aerosol Research Co., Forest Park, Ill.



An aerosol valve assembly comprising a mounting cup having a top wall provided with an aperture and an apertured sealing gasket positioned adjacent the underside of said top wall, a shell having an open top held against said sealing gasket, a coiled compression spring seated in said shell, a sealing cup seated in said spring, the inner wall surface of said sealing cup being tapered, the upper edge of said sealing cup being held in sealing engagement with said gasket by said spring, and a dispensing tip having a tubular valve stem extending through the apertures of said top wall and said gasket to engage said sealing cup, said valve stem being tapered below said gasket to conform to the taper of said sealing cup, said valve stem having a longitudinal metering groove in the outer surface thereof adjacent to the lower end thereof and being operable by finger pressure to displace said sealing cup from sealing engagement with said gasket.

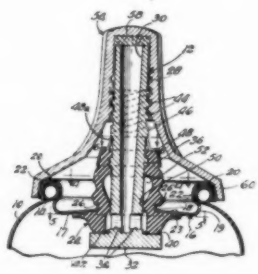
2,913,749. APPLICATOR FOR PRESSURIZED PACKAGE. Issued Nov. 24 to John E. Ayres, Mountainside, N. J., assignor of one-half to John M. Wittke, Westfield, N. J.



An applicator for dispensing commodities of cream-like consistency from a pressurized container having a valve-controlled discharge outlet therein which comprises a base, said base having a top and a bottom and having a discharge passageway formed therein, said passageway extending from the bottom to the top of the base, a self-sealing closure member carried by the base, said closure member including a stem seated in the discharge passageway in the base, and an annular head portion of a resilient material extending beyond the sides of the discharge passageway at the top of the base, said annular head portion having an outer edge resiliently engaging with a surface portion of the base surrounding the discharge passageway and normally forming a seal therewith, and means for conducting a commodity from the discharge passageway in the base to the outer edge of the annular portion of the closure member.

•

2,914,224. VALVE ASSEMBLY FOR PRESSURE CONTAINERS AND THE LIKE. Issued Nov. 24 to David Daniel Michel, Chicago.



A valve assembly for a dispenser having a flanged aperture or the like comprising an elongate resilient valve seat having a longitudinal passageway therethrough, said valve seat engaging the periphery of an aperture in such dispenser in fluid-sealing relationship, said valve seat having an annular recess, said periphery of said dispenser aperture comprising a flange adapted to engage said valve seat annular recess and interlock therewith, nozzle means receivable in said valve seat passageway and having an internal passageway running the length thereof, plug means formed integrally with said nozzle means and closing one end of said

(*Continued on Page* 72)

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- *label claims*
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Address all classified replies to Box Number c/o *Aerosol Age*, PO Box 31, Caldwell, N. J. Rates for "Help Wanted" advertisements are 20¢ per word; minimum charge $3.00. Rate for individuals seeking employment is 5¢ per word, $1.00 minimum. Advertisements of new machinery, products and services accepted at the rate of $10.00 per column inch. Minimum space, one inch. Copy closing date, 10th of preceding month. *Checks must accompany all orders.*

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EQUIPMENT FOR SALE

1 model L-1000 Oil Equipment Pres-O Filler, 400 grams maximum capacity, complete with electrical controls. Unit is in excellent condition. Very good for lab or short run packs.

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USED AEROSOL PRODUCTION MACHINERY — 10 Head Filler — 3 Head Crimper—2 Head Pressure Filler—All Fittings and extra liquid Pump. Write for photographs and price. Address Box 202, c/o Aerosol Age.

1 MODEL REF752 MOJONNIER REFRIGERATOR UNIT, in excellent condition, with 2 Evaporators, 7½ tons, 25 h.p. motor, slightly used, with a cooling tower. Address Box 203, c/o Aerosol Age.

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Do you need sales representation in the booming southeastern states? ?

Well known sales agency has opening for a few good lines in the aerosol or related packaging fields.

Please reply in complete detail to: Box 199 c/o Aerosol Age.

HELP WANTED

WANTED—CAPABLE, PERSONABLE, AMBITIOUS, energetic man with college education, chemical and mechanical engineering. Must have broad knowledge in aerosol charging and packaging machinery for forceful intelligent sales. State education, age, experience, marital status, references. Include snapshot if available. Box 201, c/o Aerosol Age.

Mohr to Geigy Sales Staff

The Geigy Agricultural Chemicals Division of Geigy Chemical Corp., Yonkers, N. Y., last month announced the appointment of Donald M. Mohr to its sales staff. He will represent the division in New Jersey.

Mr. Mohr holds a bachelor of science degree in agriculture from Rutgers University, and prior to joining Geigy was a New Jersey sales representative for Olin-Mathieson Chemical Corp.

Schwaikert to New Bon Ami Post

Ralph A. Schwaikert, who had been vice-president in charge of production, has been named executive vice-president of Bon Ami Co., New York marketer of aerosol and conventional household products. Mr. Schwaikert joined the company as a research assistant in 1953, after production posts at E. Hurley Co. and Oakite Products. He later became project engineer and assistant manager, and in 1958 was appointed by Bon Ami to be vice-president in charge of manufacturing.

Crown Revamps SW Region

Crown Cork & Seal Co., Inc., Philadelphia, major producer of aerosol containers, last month established a new sales region, designated as the Southwest Region, to provide better concentration of sales and service in Colorado, Kansas, Missouri, New Mexico, Oklahoma, Texas, and Arkansas.

Leonard S. Martin, a former St. Louis district sales manager, was named to be regional sales manager of the new region. He joined Crown in 1942.

Succeeding Mr. Martin as St. Louis district sales manager is Eldon E. Blust, former sales representative in the same district. Mr. Blust has served with Crown for 22 years.

•

Colgate Appoints DiSomma

Joseph DiSomma has been named a chemist in the oral products section of the Research and Development Department of Colgate-Palmolive Company's Toilet Articles Division.

Mr. DiSomma has been assigned to the oral products formulations group at the Colgate Research Laboratories in Jersey City. He comes to the company from St. John's University, where he recently received his B.S. degree in chemistry. He is a member of the American Chemical Society.

A Correction

The new perfume purse aerosol package shown in the "New Products" section of the December *Aerosol Age* as being made by Metal Fabrications, Inc., was made specifically by Metal Fabrications for Avon Products, Inc. This was inadvertently omitted from the description of the item appearing on page 82.

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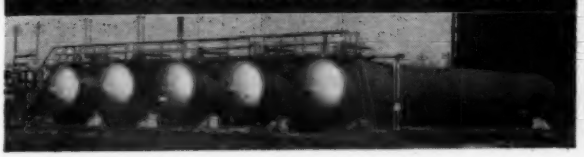

Aerosol Patents

(*From Page* 70)

nozzle passageway, said nozzle means being transversely apertured adjacent said plug means, an annular shoulder formed integrally with said nozzle means, and locking collar means of flared configuration having one circumferential edge of substantially the same diameter as said nozzle means abutting against said annular collar and having a second circumferential edge for wedging the end of said valve seat inwardly into tight engagement with the peripheral portion of said nozzle means adjacent said shoulder, said valve seat being compressed between said locking collar and said plug whereby said plug means engages the lower end of said valve seat in fluid-sealing engagement in the normal position of assembly, said nozzle means being tiltable whereby a portion of said plug means may be removed from said engaged valve seat end.

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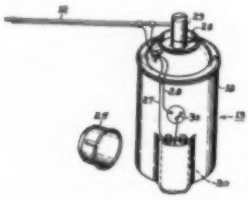
2,914,221. AEROSOL BOMB DEVELOPMENT. Issued Nov. 24 to Joseph F. Rosenthal, Rochester, N. Y., assignor to Haloid Xerox, Inc., Rochester, N. Y.

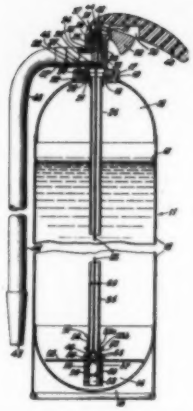


A powder cloud generator to create a charged powder particle aerosol to develop xerographic electrostatic image bearing patterns comprising a pressure resistant container, a mixture of insoluble xerographic developer powder particles in a liquid propellent positioned within said container, a valve on said container to control discharge of the powder liquid mixture, a turbulent flow standard stainless steel tube metal discharge nozzle having an internal diameter of about .023 inch and a length between 4½ and 12 inches connected to said valve, and means connected to said nozzle to pass electric current through the nozzle to heat it to a temperature of at least about 600° F.

•

2,908,334. PROCESS AND APPARATUS FOR GENERATING AND DISCHARGING FOAM. Issued Oct. 13 to James J. Duggan and Elias W. Hain, Charleston, W. Va., and George C. Haettinger, Indianapolis, assignors to Union Carbide Corp., New York.

In apparatus for generating and discharging fire-extinguisher foam, the combination of a container for holding a foam generating solution consisting of water and a foam-



ing agent, and a halogen-containing hydrocarbon propellant present in both the liquid and gaseous phases, the halogen-containing propellant liquid phase being substantially immiscible with and of greater density than the foam generating solution; valve means and an educator tube in said container for discharging the foam; orifice metering means for passing the foam generating solution and the gas phase propellant into the eductor tube at proportional rates sufficient to generate such foam; and means comprising a sight gage containing an indicator ball, such gage being positioned in the container wall for determining the liquid level of the propellant in said container.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. In not all cases are there strictly aerosol trademarks, however, many of the products listed below come within the category of those for which a possible future use in aerosols is foreseen.

VAPO-MIST, for nasal spray for the symptomatic relief of colds and other nasal sinus and bronchial conditions. Filed April 14 by Vick Chemical Co., New York, with first use claimed March 25 of same year.

MELLOW-RICH, for chocolate flavored syrup. Filed Sept. 25, 1957 by H. B. Hunter Co., Norfolk, Va., reporting first use Oct. 4 of previous year.

KIL-SECT, for coatings containing an insecticide. Filed July 6, by Consolidated Paint & Varnish Corp., Cleveland, with first use reported as Nov. 7 of last year.

RIGHT GUARD, for deodorants for personal use. Filed Feb. 2 by The Gillette Co., Boston, reporting first use Dec. 1 of previous year.

LEKTRONUL, for anti-static record cleaner. Filed June 24 by Delvan Ltd., New York, with first use reported as Jan. 9

MAKES INDOOR AIR FRESH AS ALL OUTDOORS, for household deodorants. Filed Jan. 19 by S. C. Johnson & Son, Racine, Wis., with first use claimed for August 1956.

ANADREX, for medicated nasal inhaler. Filed March 17 by Warner-Lambert Pharmaceutical Co., Morris Plains, N. J., reporting first use Nov. 10 of last year.

AEROMAGIC, for aerosol packaged starch. Filed May 15 by General Aerosols, Inc., Bridgeport, with first use claimed for Sept. 24 of year previous.

CHEK-WET, for water repellent composition. Filed Jan. 30 by Caled Products Co., Brentwood, Md., reporting first use Aug. 13, 1958.

HARTOCIDE, for mothproofing agents for woolens. Filed Nov. 21, 1958 by Hart Products Corp., New York, with first use reported as Oct. 6 of same year.

BLACK DIAMOND, for perfume. Filed Feb. 5 by Robert T. Roberts, d.b.a. Trebor Perfumes, Detroit, reporting first use Jan. 28.

O CEDAR, for chalk board cleaner. Filed June 19 by American-Marietta Co., Chicago, with first use reported on or about April 15.

P.D.Q., for detergent spray cleaner for household use. Filed May 12, 1958 by Jerclaydon, Clifton, N. J., claiming first use at least as early as April 24 of same year.

DARE, for cleaning preparation for automobiles and the like, including whitewall tire cleaner. Filed July 16 by John Krupa, d.b.a. National Chemical Engineering Co., Cleveland, with first use claimed for June 24 of previous year.

NALDECON, for nasal decongestant. Filed June 26 by Bristol Laboratories, Inc., Syracuse, reporting first use April 7.

DERMOPLAST, for aerosol anesthetic preparation for the relief of surface paint. Filed March 25 by Doho Chemical Corp., New York, reporting first use Feb. 28, 1935 (as to name).

VAZOL, for pressurized spray preparation for use as an air disinfectant and deodorant. Filed Sept. 29, 1958 by Lanolin Plus, Inc., Chicago, claiming first use Sept. 20 of previous year.

BABY SEA AND SKI, for medicated preparation for babies used as a preventative for sunburn, also for the relief of diaper rash and mosquito bites. Filed Feb. 14, 1958, claiming by Botany Mills, Inc., d.b.a. Rolley Co., South San Francisco, Calif., with first use reported as Dec. 20 of previous year.

BABY-GARD, for protective cream for diaper rash and minor skin irritation. Filed June 15 by Invenex Pharmaceuticals, San Francisco, claiming first use March 5.

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Philadelphia Aerosol Co.

March Manufacturing Corp., was recently organized as a subsidiary of Mayo Pharmaceutical Co., Philadelphia to offer contract filling for a wide range of aerosol products. Located at 1700 W. 68th Ave., Philadelphia 26, it is headed by Marvin Bellows. Equipment includes both cold and pressure fill lines and company has fully equipped formulation and quality control laboratory.

Spitzer Joins Revlon

Erwin Spitzer, former vice-president and merchandising director of the Kudner Advertising Agency, New York, has been appointed a group advertising manager by Revlon.

OVER THE TRANSOM

AS WAS anticipated by most people "in the know", the Canadian Manufacturers of Chemical Specialties Association has terminated its bulletin arrangement with the Chemical Specialties Manufacturers Association. The break came in Washington when the CMCS asked for better terms to continue getting the entire list of CSMA bulletins for all of its members. This service had been costing the CMCS almost one-third of its total budget, and there were rumblings at the Canadian group's meeting (in Toronto in November) about the fact that a good number of the bulletins have to do with state regulations and other matters of minor concern to the Canadian marketer or manufacturer of chemical specialties. "Renegotiation" attempts with the CSMA board broke down in Washington and the whole arrangement has been cancelled.

One very welcome sight at the CSMA convention in Washington was that of Jack Mills, who guided the early successes of Bridgeport Brass in the aerosol industry. Jack is on six-months loan from his company to the Department of Commerce.

* * *

The CSMA convention was probably the most successful — from the standpoint of attendance and new members — in the history of the association. There were upwards of 950 registrations in Washington, and at last report the total membership had reached a record 430 members!

* * *

The exceedingly fine point of whether two cans of aerosol spray paint constitute a "decorative" or a "building" material is one of several key points being used to try the legality of the much disputed Sunday closing laws in New Jersey. The laws, passed by referendum vote at the last election, are aimed primarily at highway discount stores, which have been seriously cutting into the sales of local retail merchants. In the case involving the aerosol paints, a store clerk at the Atlantic Paint Store, Totowa, N. J., was arrested by town police on Nov. 29 after selling the paints and charged with violation of the Sunday law. The management of the store maintains that aerosol paints are decorative rather than building materials. The law specifically prohibits the sale of building material on Sunday. The case will come to trial late in December.

* * *

Clarence Carter, president of Continental Filling Corp., Danville, Ill., has been granted his "ticket" qualifying him for instrument flying. This is no small accomplishment, and puts Clarence well beyond the rank of an "amateur" flyer.

* * *

In case you're wondering what ever became of Sesoxane, Shulton's widely acclaimed synergist introduced just three years ago, we hear that serious staining problems have held up further sales efforts.

* * *

When Charlie Conerly, veteran quarterback of the New York Giant professional football team, was given a "day" by his fans in New York on November 29, one of the leading aerosol marketers in the South presented him with a Chevrolet Corvette sports car. Dumas Milner, president of the enterprising Dumas Milner Corp., Jackson, Miss., and a longtime friend of Charlie, was the donor of the car (and was pictured with car and Conerlys in the Nov. 30 *New York Times*).

* * *

In a mention of aerosol shoe polishes made in this column last issue, we somehow neglected to mention Knomark Inc. (now a division of Revlon) which has made undoubtedly the most substantial contributions to the development of these products of any company. Knomark, marketer of the "Esquire" line, has a new aerosol wax shine ready for marketing which can be expected to stimulate the market considerably.

* * *

In case you missed it, the CSMA had to change its rules to permit Fred Lodes an associate member to become treasurer.

"I don't think the USDA does it this way at all!"

...and then some!

50,000 square feet, as a matter of fact, in which to meet your liquid or aerosol filling requirements. Besides ample facilities for handling your bulk ingredients, we have extensive warehousing space for the storage of your products after packaging. When shipments are to be made, our personnel and equipment are ready to move large or small orders in a hurry... and of course, we're always glad to handle drop shipping. Direct railroad sidings and truck service at our door permits our plant to serve as your warehouse... a central distributing point... saving you time... and money.

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Rx FOR AEROSOL DISPENSING THE WIDEST RANGE OF

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Valves

The Risdon MAGNA-METER Valve
A large capacity metering valve for dispensing pre-measured amounts from fractional to multiple cc quantities in spray, liquid or foam form.

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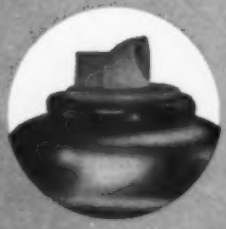
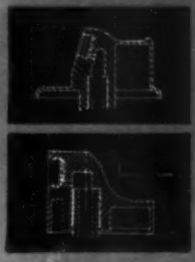
Delivers a pre-measured spray of duration determined by packager. Actuator must be released and pressed again for subsequent measured spray.

The Risdon G8 Valve
A non-metallic valve for glass, plastic and small metal containers. No spring. No metal in contact with contents. No danger of corrosion or contamination.



The Risdon 5210 Valve
For metal containers. One basic valve — five models with special actuator to suit specific function. Suitable for both refrigeration and pressure filling.

The Risdon MICRO-MIST Valve
Any Risdon valve becomes a "Micro-Mist" valve when fitted with Risdon's patented Micro-Mist mechanical break-up actuator. Enables valve to dispense 3-phase products or give super-spray performance on 2-phase and ultra-low pressure products. Increases formulation latitude and economy.



- Dispense an extensive variety of formulations including propellant emulsions or dispersions • certain types of powders • water-base products • 2-phase, 3-phase & ultra-low pressure products.
- Dispense products in spray, liquid or foam form.
- Applied to glass, plastic and metal containers.
- Dispense pre-measured dosages or unmeasured amounts.
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Contact Risdon for further information, samples and prices.

Valves shown are covered by Patents or Patents Pend.

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Risdon valves can be fitted with special actuator-applicators such as shown